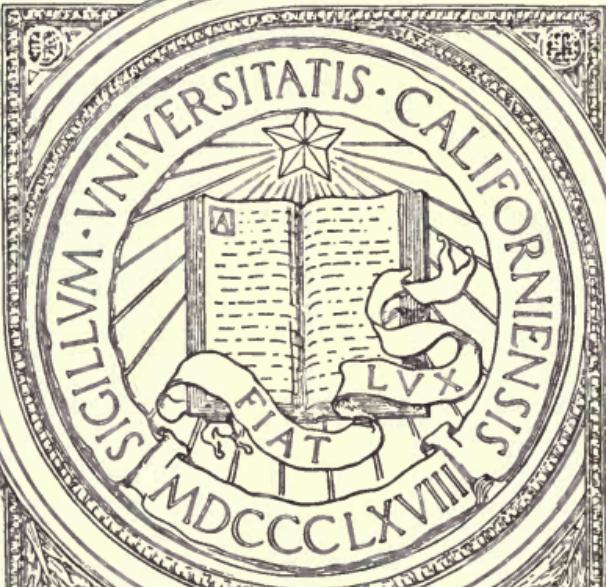


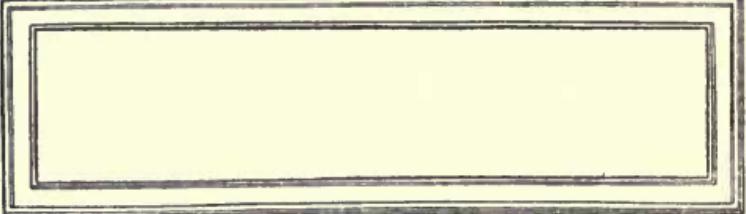
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DEARBORN FOUNDRY COMPANY,
1525 DEARBORN STREET,
CHICAGO, ILL.

ERASTUS FOOTE, JR., Pres.

E. T. CUSHING, Sec'y and Treas.

POCKET COMPANION

OF

USEFUL INFORMATION AND TABLES

PERTAINING TO THE USE OF

Cast AND Wrought Iron Work

Illustrating Various Designs of

ARCHITECTURAL IRON WORK

FOR

Engineers, Architects and Builders.

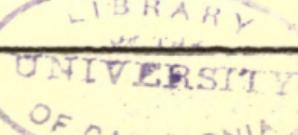
COMPILED BY THOMAS SMITH.

A Large Assortment of **Wrought Iron I Beams** constantly on hand;
also, can furnish **Steel Beams** promptly.

1887.

ELECTROTYPE.

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DWARFED FOUGHEY COMPANY

TH1655

3C

THE CROWN COMPANY

Press of
The J. M. W. JONES S. & P. COMPANY,
1887.

ARCHITECTURAL WORK

PRINTING, BOOKS, ETC.

PRINTING, BOOKS, ETC.

CAUTION.

Do not mutilate this Book by cutting out any of the various cuts you wish to use, but simply order by number or letter below the design required.

PREFACE.

On the following pages we have endeavored to present such a variety of Architectural Iron work, both in design and price, as will suffice to meet almost any requirement. Should, however, a design differing from any of our illustrations be desired we will be pleased to give price, which will depend upon quantity and style of work. All requests for quotations should be accompanied by an approximate bill of items, giving sizes, lengths, etc. The size of lot should be given; also state if corner or inside lot, and the purpose for which building is to be used; state number of stories, and, if possible, the thickness of walls. As it is impossible to have a price list of such a variety of work—and each building has to be estimated carefully—it is of great assistance if this information is given, and prices can be quoted much closer than upon an indefinite inquiry.

In ordering be careful in designating by letter or number as shown in the following cuts, as this will facilitate matters in getting out the work with care and promptness.

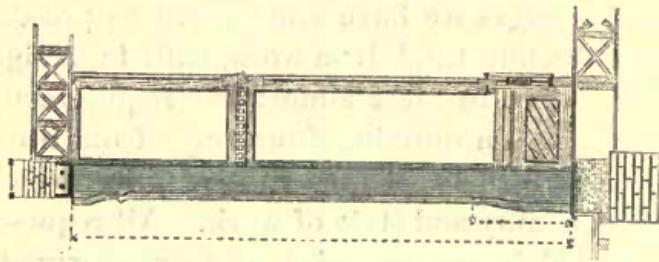
Manufacturers of Cast and Wrought Iron Building Work, Iron Fronts, Columns, Pilasters, Lintels, Sill Plates, Cornices, Gratings, Sidewalk Columns and Lintels, Window Guards, Sash Bar, Window Caps and Sills, Wrought Iron Shutters and Doors, Iron Stairs, Balconies, Balcony Brackets, Machinery Castings, Boiler Fronts, Prismatic Lights, Lamp Posts, Bolts and Washers, Stirrups, Anchors, Castings for Packing Houses, Sugar Refineries, Smelting Works, Stone Yards, Gas Works, etc.

■ A Full Assortment of Wrought Iron I Beams kept in stock. Estimates given on STEEL BEAMS, which we are prepared to furnish promptly.

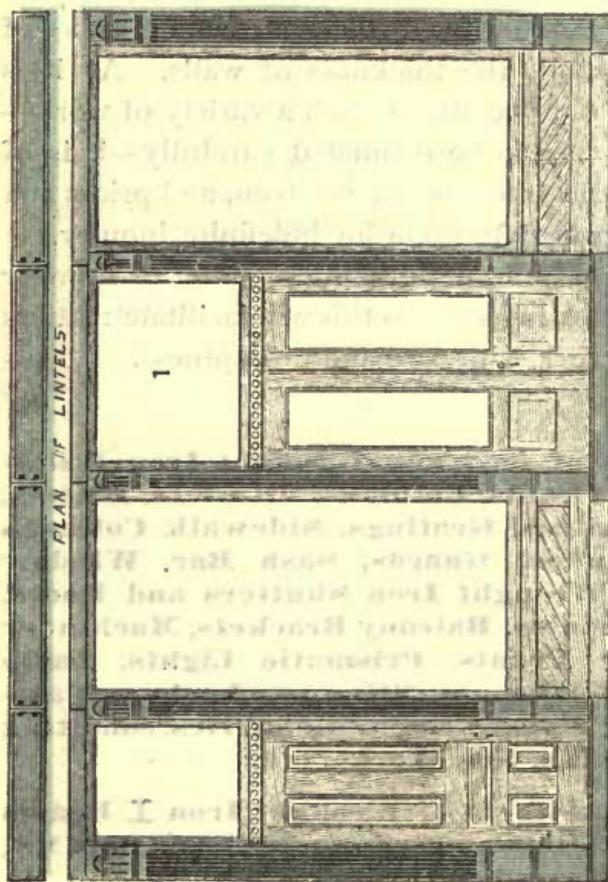
NOTE.—Estimates will be given promptly on application. Correspondence solicited.

DEARBORN FOUNDRY COMPANY.

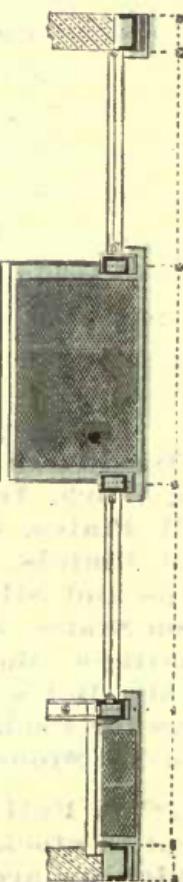
FRONT NO. 1.



SECTION.



ELEVATION OF FRONT No. I.



PLAN OF FRONT.

DEARBORN FOUNDRY COMPANY.

FRONT NO. 1.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Stair Door-Sill Plate and Riser.
- 1 Store Door-Sill Plate and Riser.
- 1 Pier-Plate under Pilaster.
- 2 Pilasters for face of 12" Brick walls.
- 1 Stair-Door Column, 6" face.
- 2 Store-Door Columns, 6" face.
- 4 Lintels for 12" wall.

Bolts for same.

FRONT NO. 1 B.

SAME AS NO. 1, EXCEPT

Pilasters are 14" face.

Lintels are 14" wide.

FRONT NO. 1 C.

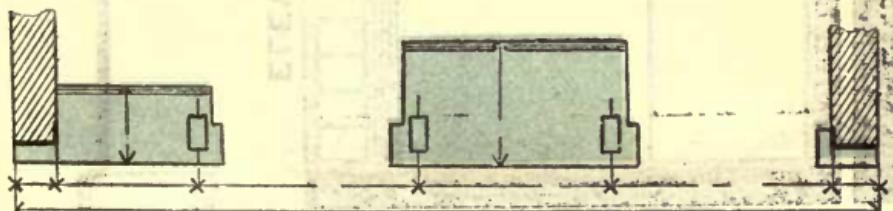
SAME AS NO. 1, EXCEPT

Pilasters are 16" face.

Lintels are 16" wide.

In ordering Iron Work for the above Fronts, give distances as shown on diagram below; also state how many stories high building is, and give thickness of front walls over Lintel.

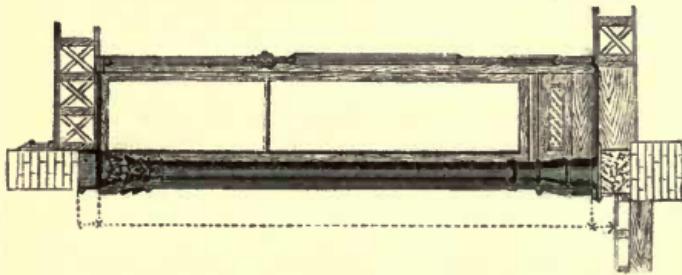
For enlarged view of Columns and Pilasters, see cut **Pilaster D**, page 25.



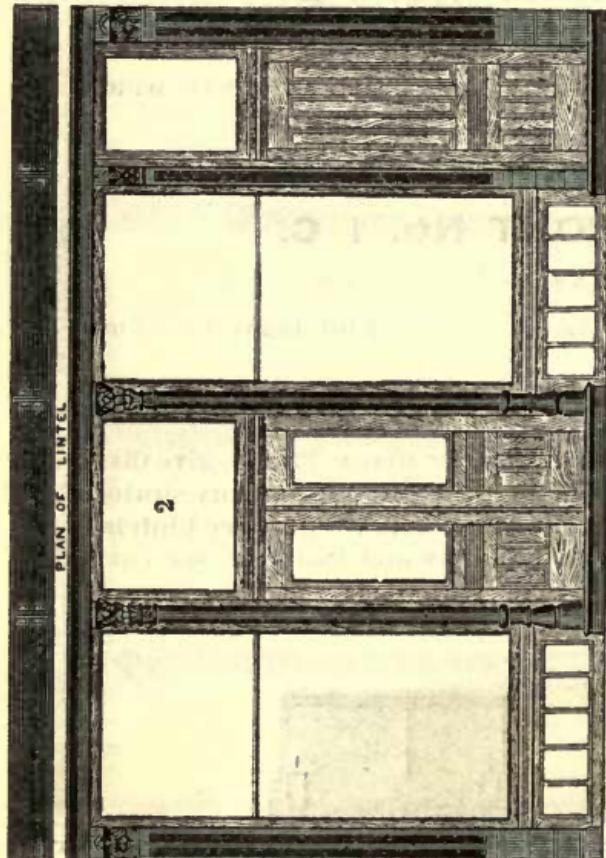
Front No. 1

DEARBORN FOUNDRY COMPANY.

FRONT NO. 2.



SECTION.



ELEVATION OF FRONT NO. 2.



PLAN OF FRONT.

DEARBORN FOUNDRY COMPANY.

FRONT NO. 2.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Stair Door-Sill Plate and Riser.
- 1 Store Door-Sill Plate and Riser.
- 1 Pier-Plate under Pilaster.
- 2 Pilasters for face of 12" Brick walls.
- 1 Stair-Door Column, 6" face.
- 2 Store-Door Columns, three-quarter round, 6" diameter.
- 4 Lintels for 12" wall.
- Bolts for same.

FRONT NO. 2 B.

SAME AS NO. 2, EXCEPT

Pilasters are 14" face.

Lintels are 14" wide.

FRONT NO. 2 C.

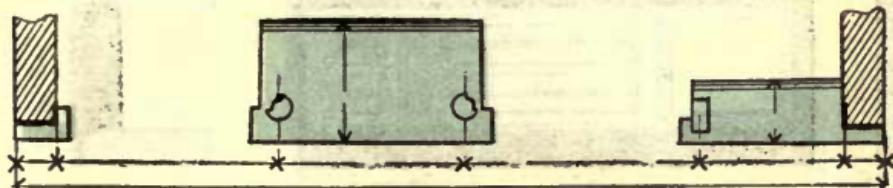
SAME AS NO. 2, EXCEPT

Pilasters are 16" face.

Lintels are 16" wide.

In ordering Iron Work for the above Fronts, give distances as shown on diagram below, also state how many stories high building is, and give thickness of front walls over Lintel.

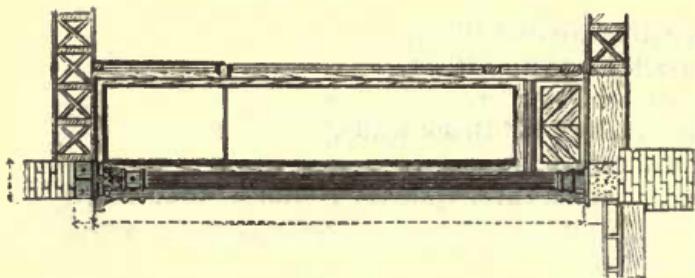
For enlarged view of Columns and Pilasters, see cuts C and E, page 25.



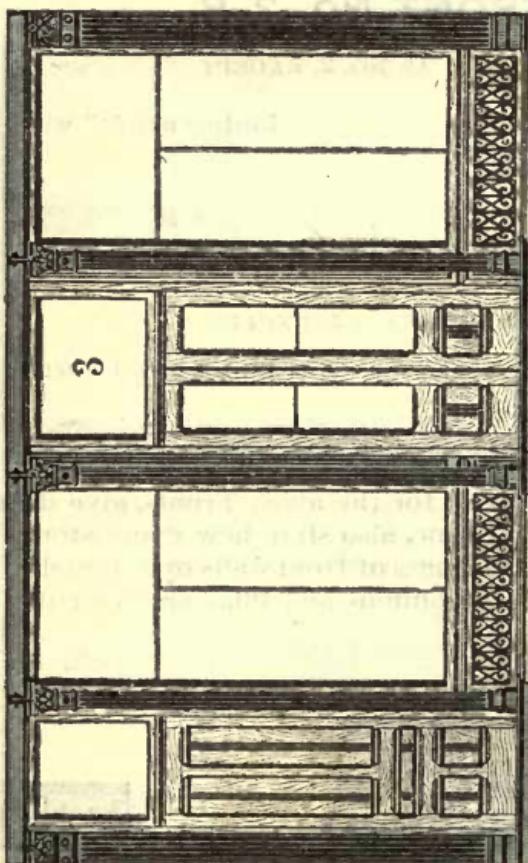
Front No. 2

DEARBORN FOUNDRY COMPANY.

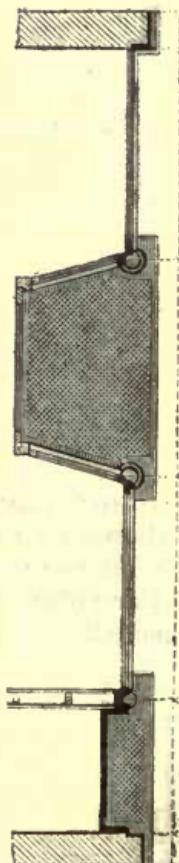
FRONT NO. 3.



SECTION.



ELEVATION OF FRONT NO. 3.



PLAN OF FRONT.

PLAN OF LINTEL.

DEARBORN FOUNDRY COMPANY.

FRONT NO. 3.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Stair Door-Sill Plate and Riser.
- 1 Store Door-Sill Plate and Riser.
- 1 Pier-Plate under Pilaster.
- 2 Pilasters for face of 12" Brick walls.
- 1 Stair-Door Column, half-round, 6" diam.
- 2 Store-Door Columns, three-quarter round, 6" diam.
- 4 Lintels (Bolts for same) for 12" wall.
- 2 Show Window Guards.

FRONT NO. 3 B.

SAME AS NO. 3, EXCEPT

Pilasters are 14" face.

Lintels are 14" wide.

FRONT NO. 3 C.

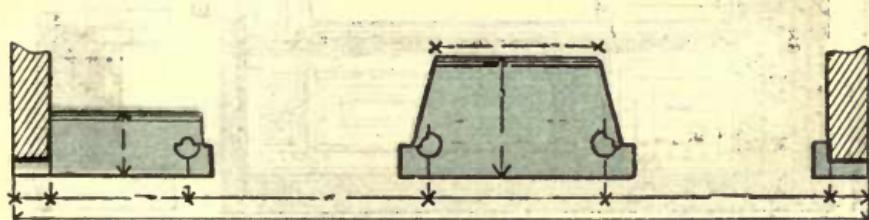
SAME AS NO. 3, EXCEPT

Pilasters are 16" face.

Lintels are 16" wide.

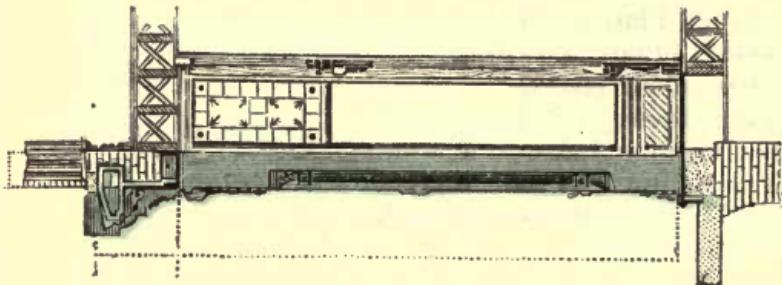
In ordering Iron Work for the above Fronts, give distances as shown on diagram below, also state how many stories high building is, and give thickness of front walls over Lintel.

For enlarged view of Columns and Pilasters, see cuts H and J, page 26.

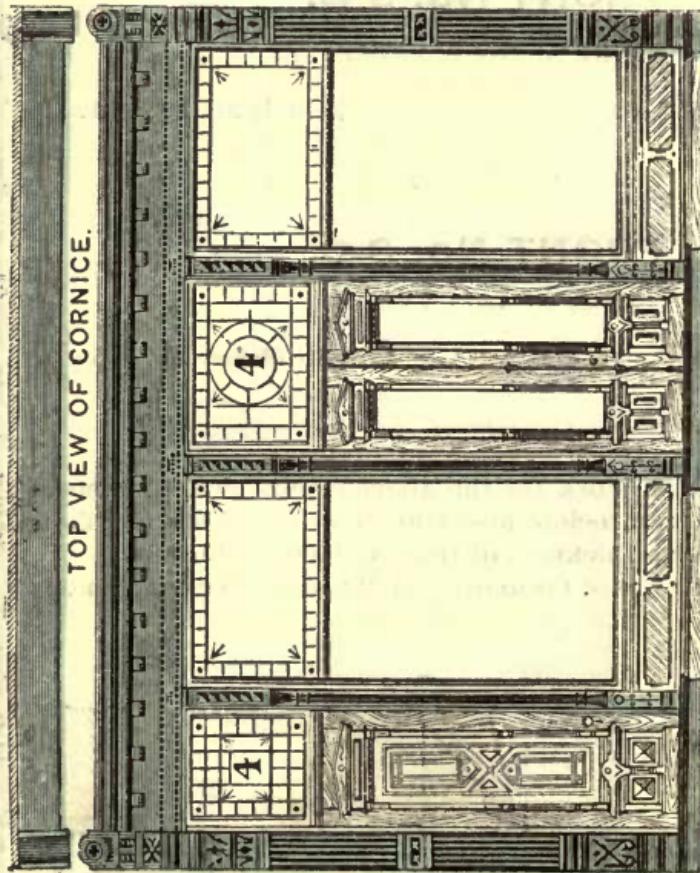


DEARBORN FOUNDRY COMPANY.

FRONT No. 4.

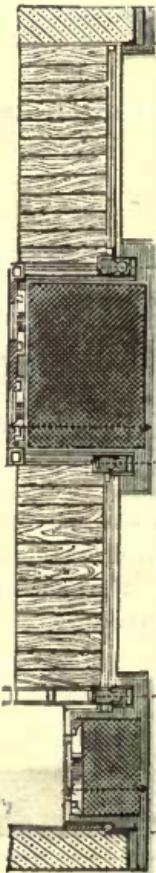


SECTION.



ELEVATION OF FRONT No. 4.

TOP VIEW OF CORNICE.



PLAN OF FRONT.

DEARBORN FOUNDRY COMPANY.

FRONT NO. 4.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Stair Door-Sill Plate and Riser.
 - 1 Store Door-Sill Plate and Riser.
 - 1 Pier-Plate under Pilaster.
 - 2 Pilasters for face of 12" Brick walls.
 - 1 Stair-Door Column, 6" face.
 - 2 Store-Door Columns, 6" face.
 - 4 Lintels (Bolts for same) for 12" wall.
- Cornice over Columns with Buttresses over Pilasters.

FRONT NO. 4 B.

SAME AS NO. 4, EXCEPT

Pilasters are 14" face.

Lintels are 14" wide.

FRONT NO. 4 C.

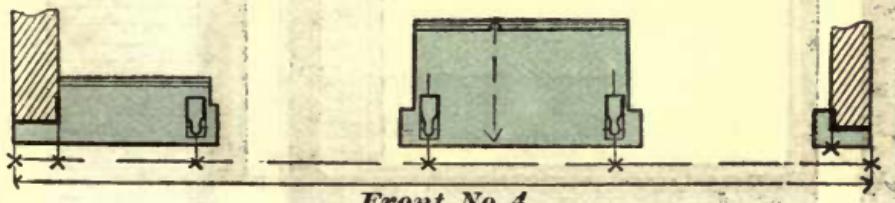
SAME AS NO. 4, EXCEPT

Pilasters are 16" face.

Lintels are 16" wide.

In ordering Iron Work for the above Fronts, give distances as shown on diagram below, also state how many stories high building is, and give thickness of front walls over Lintel.

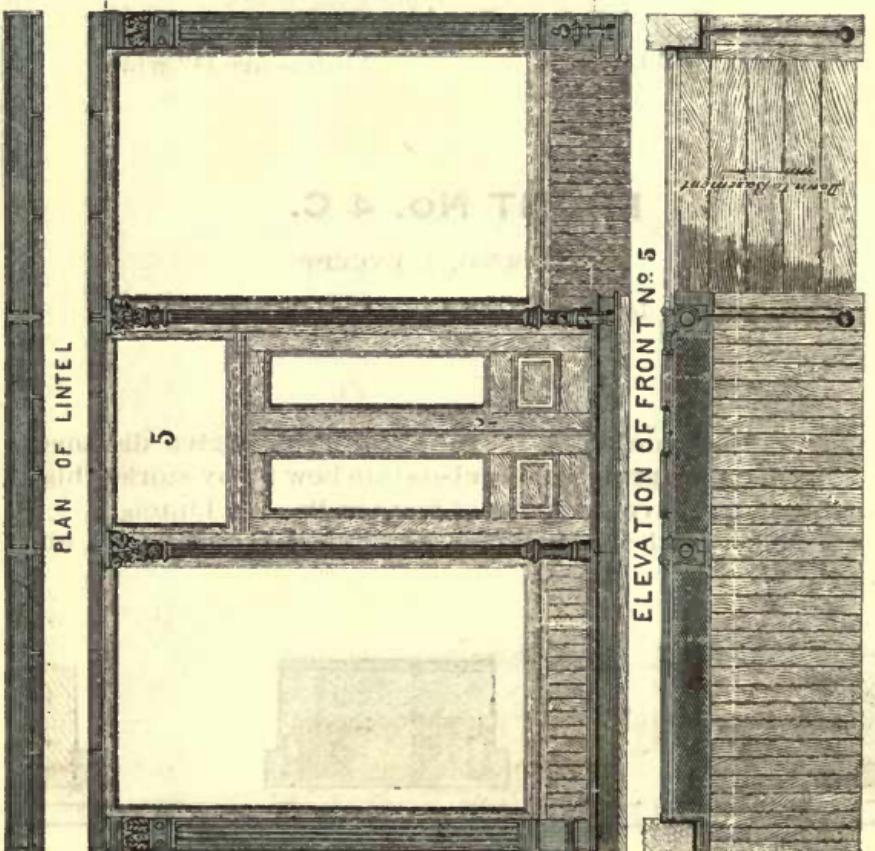
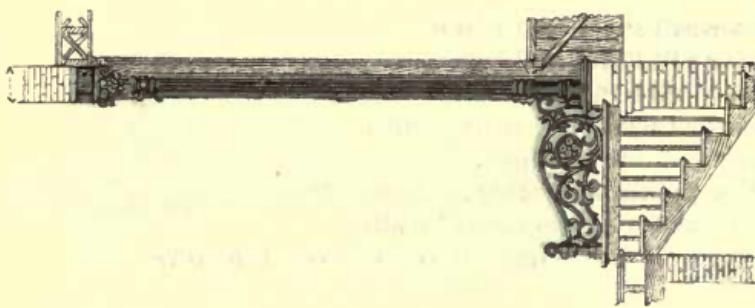
For enlarged view of Columns and Pilasters, see cuts A and B, page 24.



Front No. 4

DEARBORN FOUNDRY COMPANY.

FRONT NO. 5.



DEARBORN FOUNDRY COMPANY.

FRONT NO. 5.

— CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Store Door-Sill Plate with Riser.
- 1 Show-Window Sill Plate with Riser.
- 1 Pier-Plate under Pilaster.
- 2 Pilasters for face of 12" Brick walls,
- 2 Store-Door Columns, 6" diam.
- 3 Lintels (Bolts for same) for 12" wall.
- 2 Ornamental Cast-Iron Area Guards.
- 1 Set of Rods for Basement Steps.

FRONT NO. 5 B.

SAME AS NO. 5, EXCEPT

Pilasters are 14" face.

Lintels are 14" wide.

FRONT NO. 5 C.

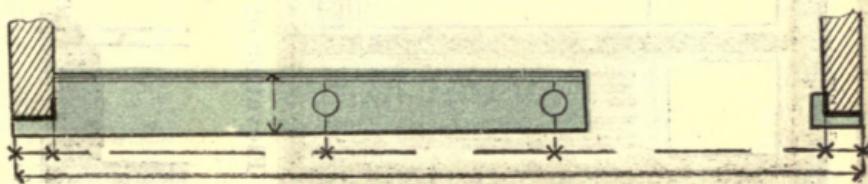
SAME AS NO 5, EXCEPT

Pilasters are 16" face.

Lintels are 16" wide.

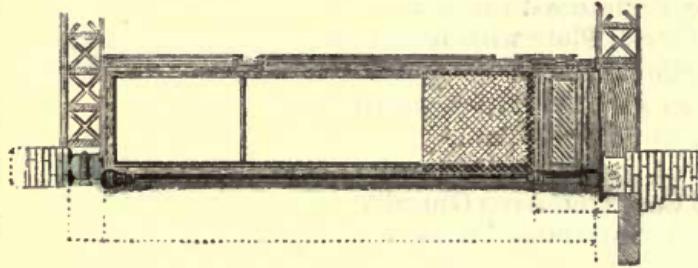
In ordering Iron Work for the above Fronts, give distances as shown on diagram below, also state how many stories high building is, and give thickness of front walls over Lintels.

For enlarged view of Columns and Pilasters, see cuts M and N, page 27.

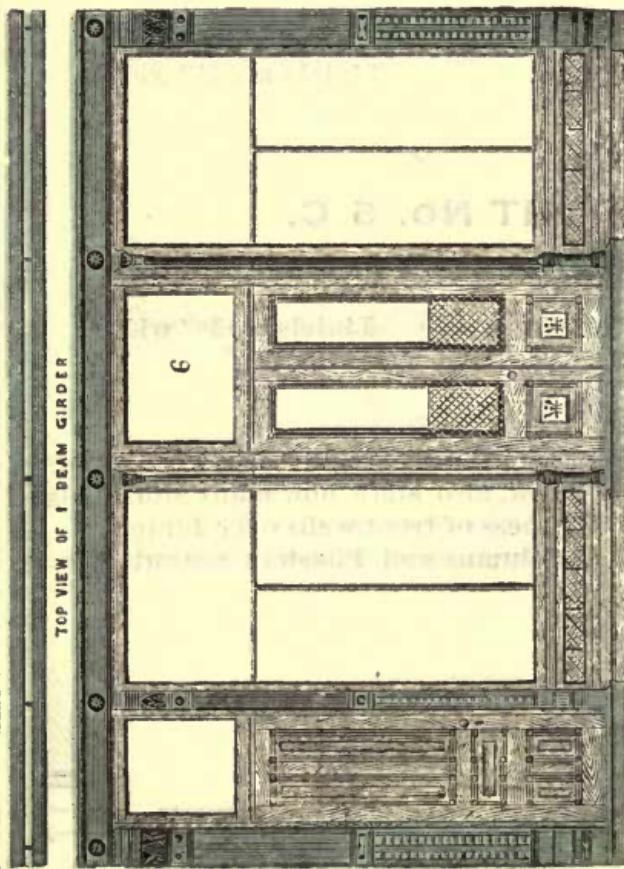


DEARBORN FOUNDRY COMPANY.

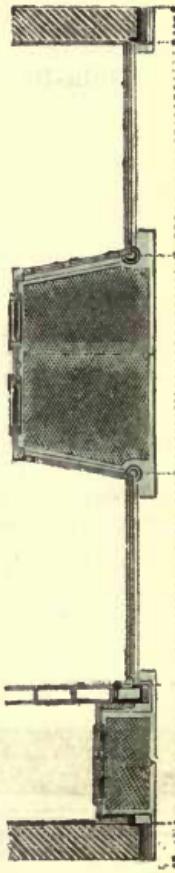
FRONT NO. 6.



SECTION.



Elevation of Front showing Gas Pipe Columns and Beam
Girder with Rosettes.



PLAN OF FRONT No. 6.

DEARBORN FOUNDRY COMPANY.

FRONT NO. 6.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Store Door-Sill Plate with Riser.
- 1 Stair Door-Sill Plate with Riser.
- 2 Pilasters for 12" wall.
- 1 Pier-Plate under Pilaster.
- 1 Stair-Door Column, 6" face.
- 2 Gas-Pipe Columns for Store Entrance.
- 1 Girder composed of two Wrought-Iron I Beams with 5 Cast-Iron Separators, and 5 Bolts with Rosettes.

FRONT NO. 6 B.

SAME AS NO. 6, EXCEPT

Pilasters are 14" face. Wrought-Iron I Beams spread 14" wide.

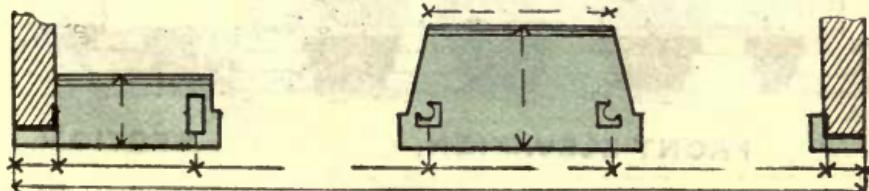
FRONT NO. 6 C.

SAME AS NO. 6, EXCEPT

Pilasters are 16" face. Wrought-Iron I Beams spread 16" wide.

In ordering Iron Work for the above Fronts, give distances as shown on diagram below, also state how many stories high building is, and give thickness of front walls over Girders.

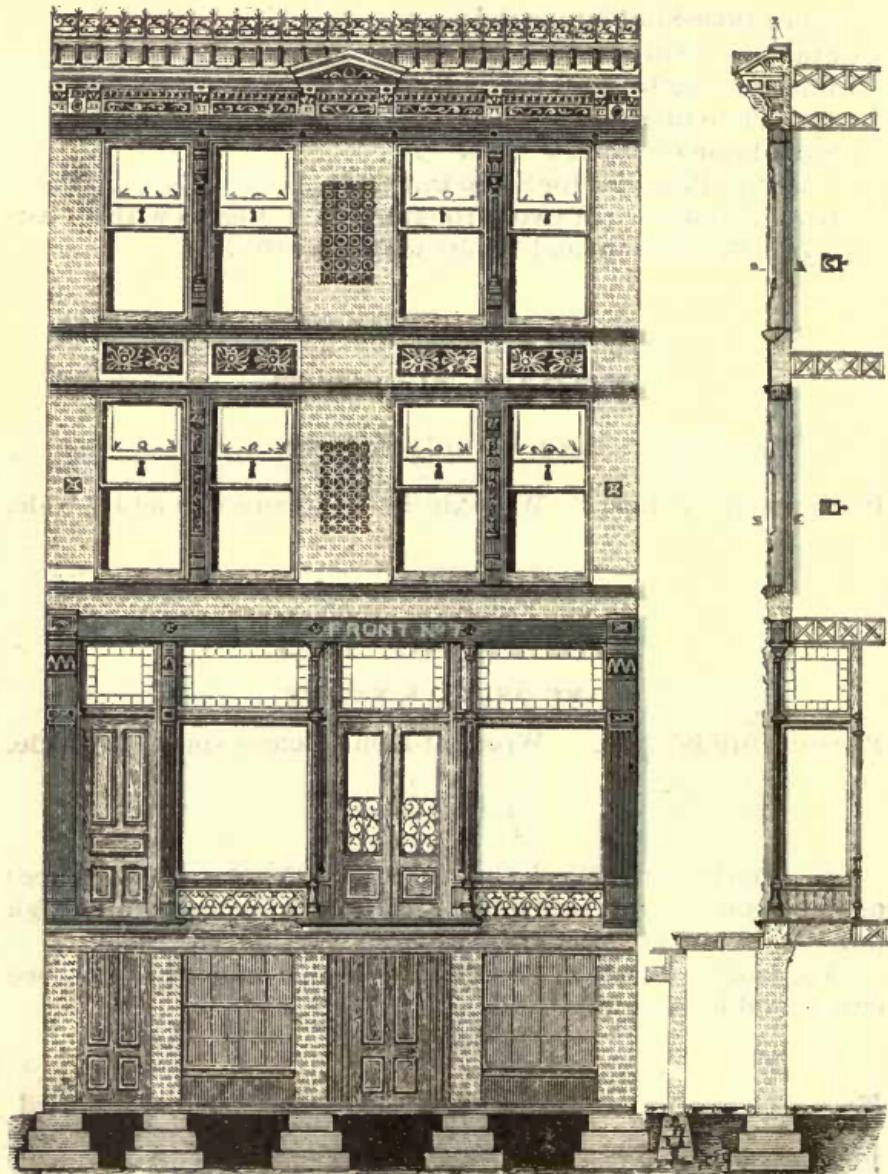
For enlarged view of Gas Pipe Columns and Pilasters, see cuts K and 40, page 27.



Front No. 6

DEARBORN FOUNDRY COMPANY.

FRONT NO. 7.



FRONT ELEVATION.

SECTION.

DEARBORN FOUNDRY COMPANY.

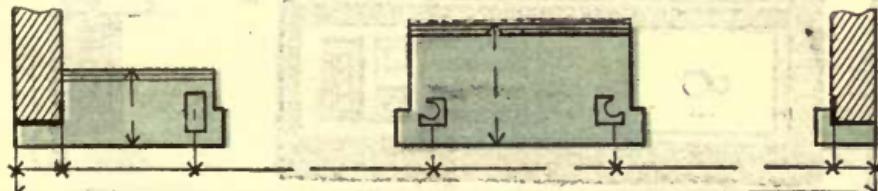


FRONT NO. 7.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Store Door-Sill Plate with Riser.
- 1 Stair Door-Sill Plate with Riser.
- 1 Pier-Plate under Pilaster.
- 2 Pilasters for 12" wall.
- 1 Stair-Door Column, 6" face.
- 2 Gas Pipe Columns, for Store Entrance.
- 1 Girder, composed of Wrought Iron I Beams with
- 5 Cast Iron Separators, and 5 Bolts with Rosettes.
- 2 Show-Window Guards.
- 2 Store-Door Entrance Guards.
- 1 Cast-Iron Window-Sill, running entire width of front.
- 2 Mullions in 2nd Story, 6" face.
- 1 Cast-Iron Lintel Course over 2nd story.
- 1 Cast-Iron Window-Sill running entire width of front.
- 2 Mullions in 3rd Story, 6" face.
- 1 Girder, composed of Wrought-Iron I Beams over 3rd story with
- 6 Cast-Iron Separators, and 6 Bolts with Rosettes.
- Cast-Iron Cresting running entire width of Front over Cornice.

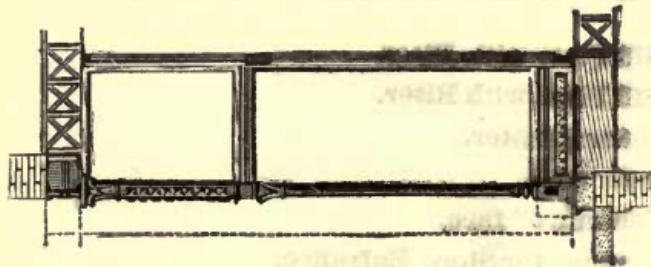
In ordering Iron Work for the above Front, give distances as shown on diagram below, also give thickness of front walls over Girder, as well as the walls above.



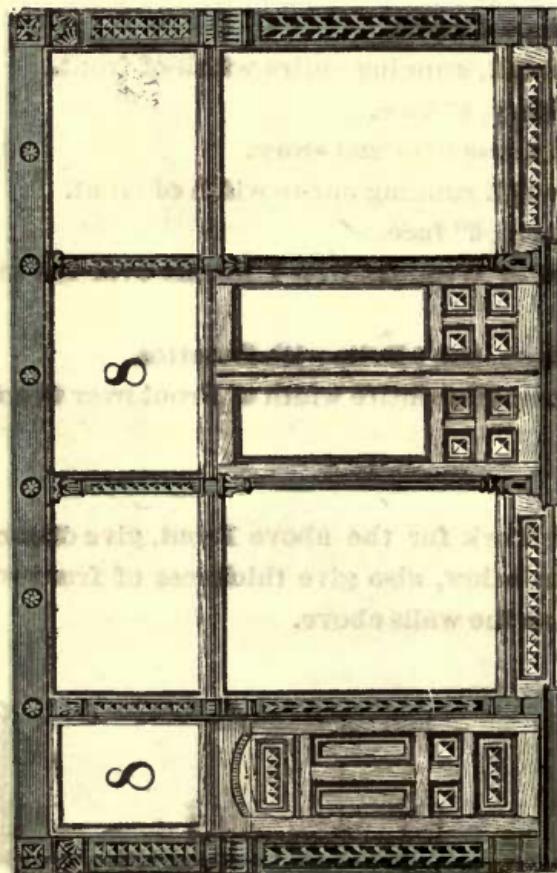
Front No. 7

DEARBORN FOUNDRY COMPANY.

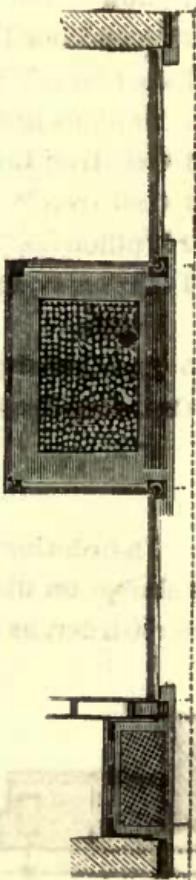
FRONT NO. 8.



SECTION.



ELEVATION OF FRONT. NO. 8.



PLAN OF FRONT.

PLAN OF LINTELS.

DEARBORN FOUNDRY COMPANY.

FRONT NO. 8.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Prismatic Store Door-Sill Plate with Riser.
- 1 Stair Door-Sill Plate with Riser.
- 2 Pilasters for 12" wall.
- 1 Pier-Plate under Pilaster.
- 1 Stair-Door Column, 6" face.
- 2 Gas-Pipe Columns for Store Entrance.
- 1 Girder, composed of two Wrought-Iron I Beams, 5 Cast-Iron Separators and 6 Rosettes and Bolts, and 2 Face Plates at ends of Beams.

NOTE.—If wanted, in place of Gas-Pipe Columns can substitute 4" Cast-Iron Columns. Also Cast-Iron Lintels may be used in place of Wrought-Iron Beams.

FRONT NO. 8 B.

SAME AS NO. 8, EXCEPT

Pilasters are 14" wide. Wrought-Iron I Beams spread 14" wide.

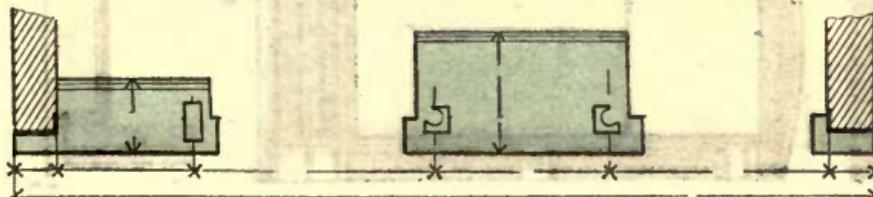
FRONT NO. 8 C.

SAME AS NO. 8, EXCEPT

Pilasters are 16" face. Wrought-Iron I Beams spread 16" wide.

In ordering Iron Work for the above Fronts, give distances as shown on diagram below, also state how many stories high building is, and give thickness of front walls over Girders.

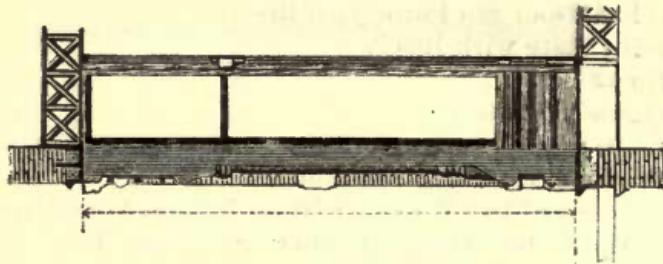
For enlarged view of Gas-Pipe Columns and Pilasters, see cuts 49 and 53, pages 29 and 35.



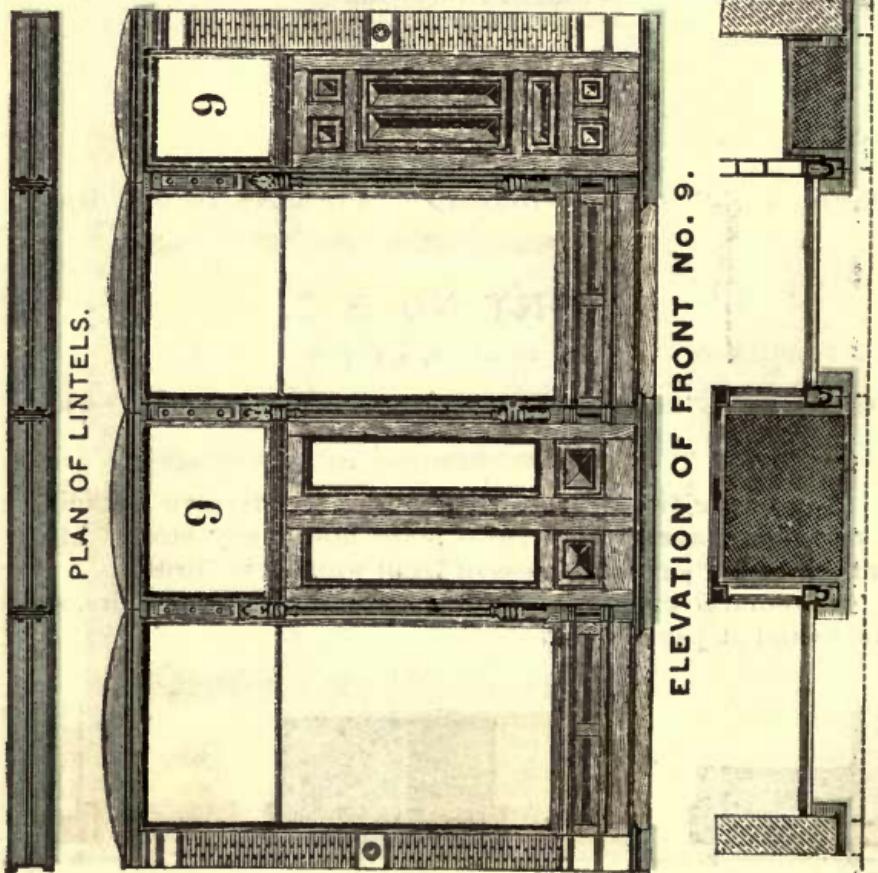
Front No. 8

DEARBORN FOUNDRY COMPANY.

FRONT NO. 9.



SECTION.



PLAN OF LINTELS.

ELEVATION OF FRONT NO. 9.

PLAN OF FRONT.

DEARBORN FOUNDRY COMPANY.

FRONT NO. 9.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Stair Door-Sill Plate and Riser.
- 1 Store Door-Sill Plate and Riser.
- 1 Pier-Plate under Brick Pilaster.
- 1 Stair-Door Column.
- 2 Store-Door Columns.
- 4 Lintels (Bolts for same) for 12" wall.

FRONT NO. 9 B.

SAME AS NO. 9, EXCEPT

Lintels are 14" wide.

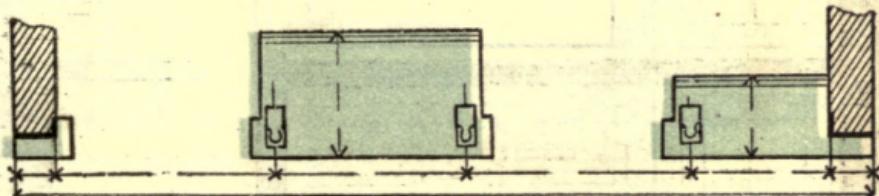
FRONT NO. 9 C.

SAME AS NO. 9, EXCEPT

Lintels are 16" wide.

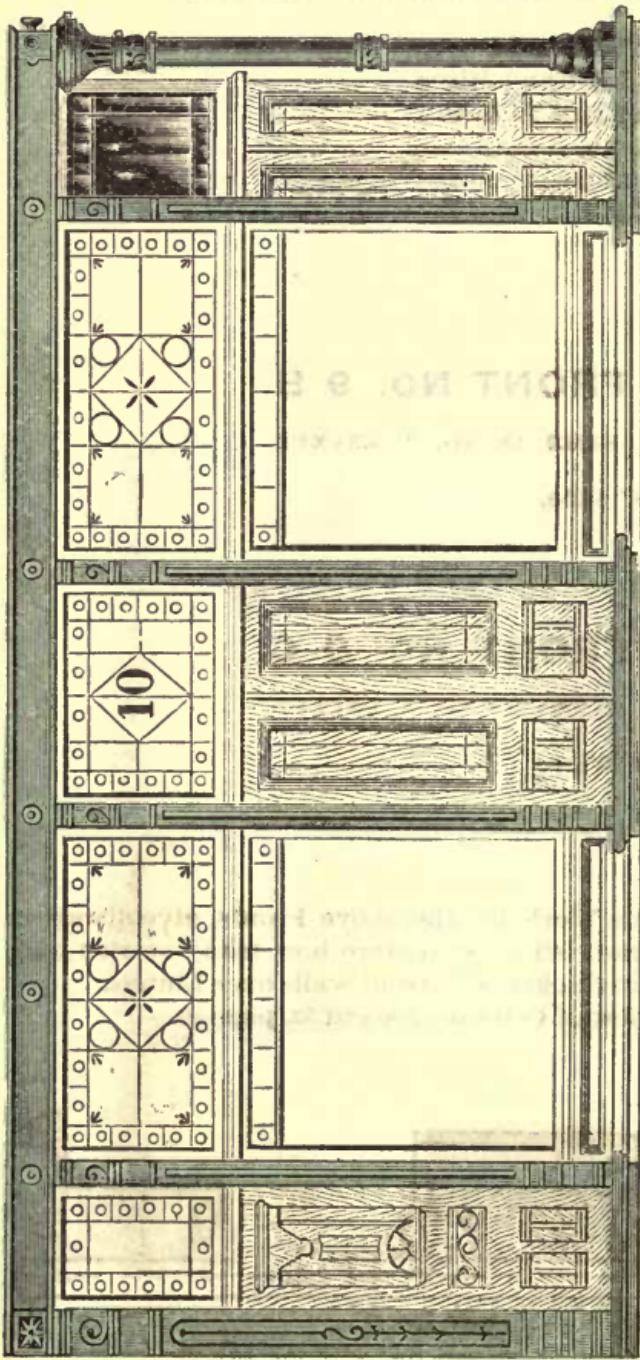
In ordering Iron Work for the above Fronts, give distances as shown on diagram below, also state how many stories high building is, and give thickness of front walls over Lintel.

For enlarged view of Columns see cut 52, page 30.



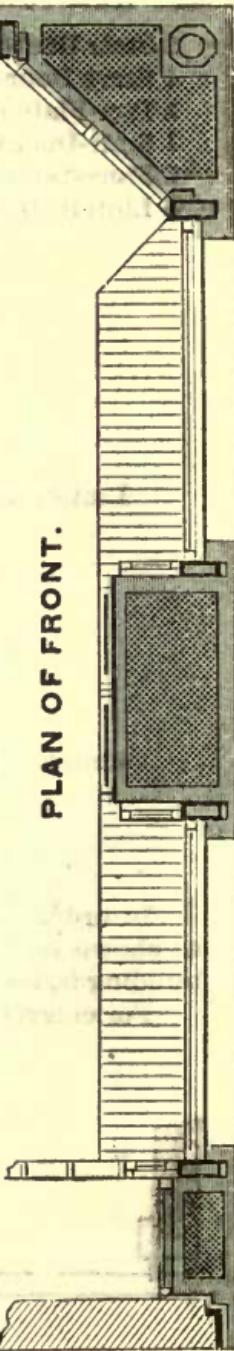
SECTION.

DEARBORN FOUNDRY COMPANY.



ELEVATION OF FRONT. NO. 10.

PLAN OF FRONT.



DEARBORN FOUNDRY COMPANY.

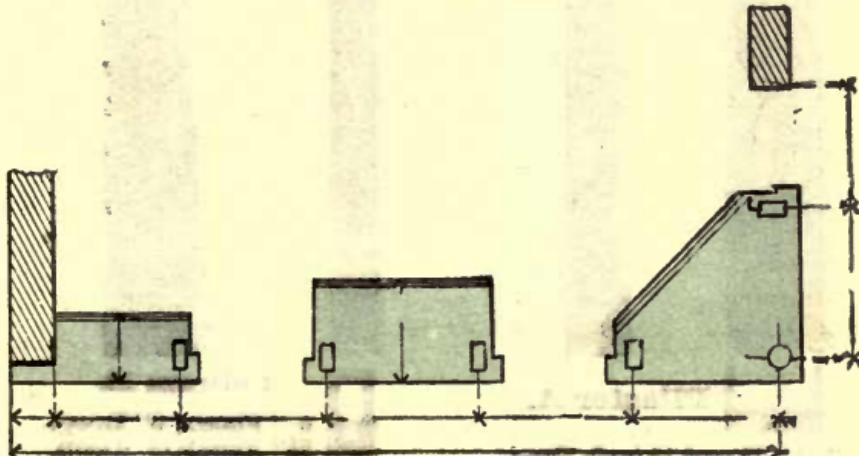
FRONT NO. 10.

CONSISTS OF THE FOLLOWING ARTICLES.

- 1 Stair Door-Sill Plate and Riser.
- 1 Store Door-Sill Plate and Riser.
- 1 Corner Store-Door Sill Plate and Riser.
- 1 Pilaster for face of 12" Brick Wall.
- 1 Stair-Door Column, 6" face.
- 2 Store-Door Columns, 6" face.
- 2 Store-Door Columns, 6" face, for corner.
- 1 Corner-Column (full round) 10" diameter.
- 1 Girder, composed of two Wrought Iron I Beams framed at corner for Front, and return on side street.
- 8 Cast-Iron Separators, and bolts.
- 7 Rosettes.
- 2 Ornamental Face Plates at ends of Beams.
- 1 Ornamental Face Plate at Corner.

In ordering Iron-Work for the above Front give distances as shown on diagram below, also state how many stories high Building is, and give thickness of Front walls over Girder.

For enlarged view of Columns and Pilasters see cuts.



Front No. 10.

DEARBORN FOUNDRY COMPANY.

PILASTER AND COLUMN.



Pilaster A.

9, 12, 14, 15 and 16 inch Face.



Column B.

6 " Face \times 8" Deep.
7 $\frac{1}{2}$ " Face \times 12" Deep.

Square Columns of same design as Pilasters can be made any depth required. Give thickness of Metal for Columns and Pilasters.

DEARBORN FOUNDRY COMPANY.

PILASTERS AND ROUND COLUMNS.

4, 5, 6, 8, 10, 12, 14 and 16 inch face.



Pilaster C.



Pilaster D.

Square Columns of same design and face
as Pilasters may be made any depth desired.
Give thickness of Metal.



Column E. For 5 and 6 inch diameter Column.



E 1.

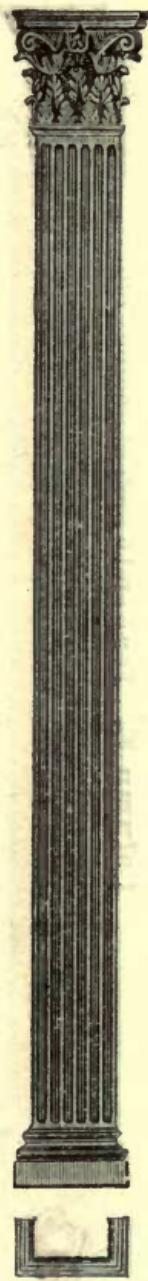


E 2.

DEARBORN FOUNDRY COMPANY.

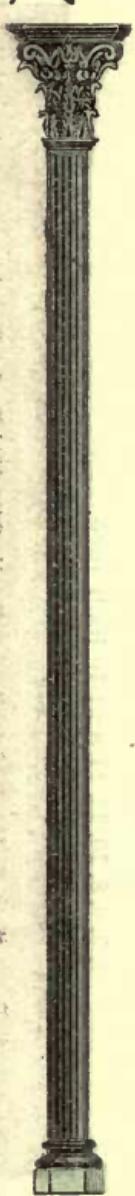
PILASTER FACES, SQUARE AND ROUND COLUMNS.

6, 8, 10, 12, 14, 16, 20 and 24 inch face.



Pilaster F.

5, 6, 7, 8, 9, 10, 11, 12, 14 and 16 inch diameter.

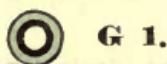


Column G.

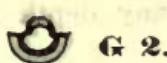
6, 8, 12, 16 and 18 inch face.



Pilaster H.



G 1.



G 2.

6 and 8 inch diameter.



Column J.



J 1.



J 2.

Square Columns of same design and face can be made any depth desired.

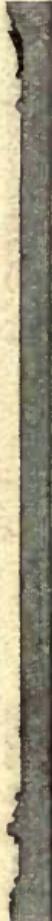
Give thickness of Metal.

DEARBORN FOUNDRY COMPANY.

PILASTERS AND ROUND COLUMNS.



5, 6, 8 and 12 inch Diameter.



Pilaster K.

6 and 12 inch Face.

M.

M 1.

M 2.

Pilaster N.

6, 8, 10, 12, 14 and 16
inch Face.

Square Columns of same design and face can be made any depth desired. Give thickness of Metal.

DEARBORN FOUNDRY COMPANY.

ROUND COLUMNS.

4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 16 inch Diameter.



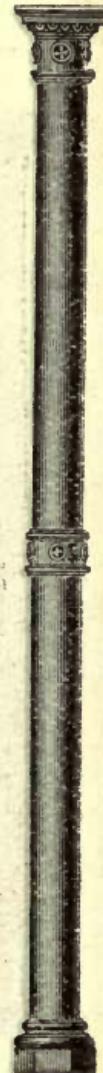
6 inch Diameter.

P.



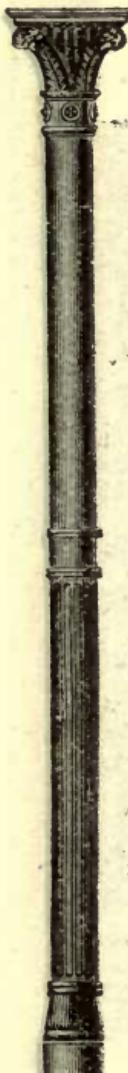
R.

5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 16 inch Diameter.



S.

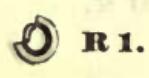
7 inch Diameter.



T.



P 1.



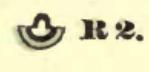
R 1.



S 1.



P 2.



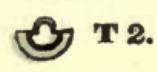
R 2.



S 2.



T 1.



T 2.

DEARBORN FOUNDRY COMPANY.

PILASTER FACES AND SQUARE COLUMNS.

12, 10, 8, 6 and 4 inch Faces.



No. 49.



No. 50.

Square Columns of same design and form can be made any depth desired. Give thickness of Metal.

DEARBORN FOUNDRY COMPANY.

HIGHSTEEZ GAGE COLUMNS.



No. 51
 $6\frac{1}{8}$ and $6\frac{5}{8}$ inch Faces.



No. 52
6 inch Face.



Square columns of same design and form, can be made any depth desired. Give thickness of Metal.

DEARBORN FOUNDRY COMPANY.

20 MUL 103

COLUMNS.

5, 7, 8 and 10 inch Diameter.



5, 7 and 8 inch Diameter.



6 inch Diameter.



6 inch Diameter.



No. 55.

No. 56.

No. 57.

No. 58.

55 A.

56 A.

57 A.

58 A.

55 B.

56 B.

57 B.

58 B.

DEARBORN FOUNDRY COMPANY.

COLUMNS.

9 Inch Diameter.

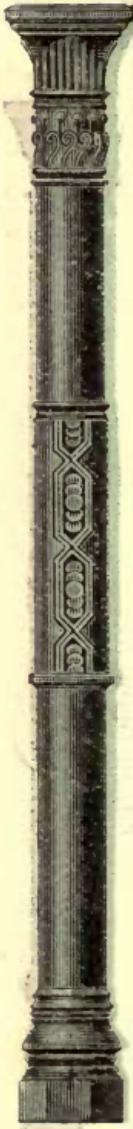


No. 59

59 A.

59 B.

10 inch Diameter.



No. 60

60 A.

60 B.

8 Inch Face.



No. 61.



Square column of same design and form as No. 61 can be made any depth desired.
Give thickness of Metal

DEARBORN FOUNDRY COMPANY.

ANGLE AND ROUND COLUMNS.

5 and 5½ inch.



5, 6, 7 and 8 inch Diameter.



9 inch Diameter.



9, 10 and 11 inch Diameter.



Angle
Column O.



No.48

U 1.

V 1.

48 A.

U 2.

V 2.

48 B.

Give thickness of Metal.

DEARBORN FOUNDRY COMPANY.

SQUARE AND ROUND COLUMNS.



5" DIAM.



No. 32



5" DIAM.



No. 34



4" DIAM.



No. 36



No. 33



No. 35



No. 37



No. 32 A



No. 34 A



No. 36 A



FRONT - SIDE

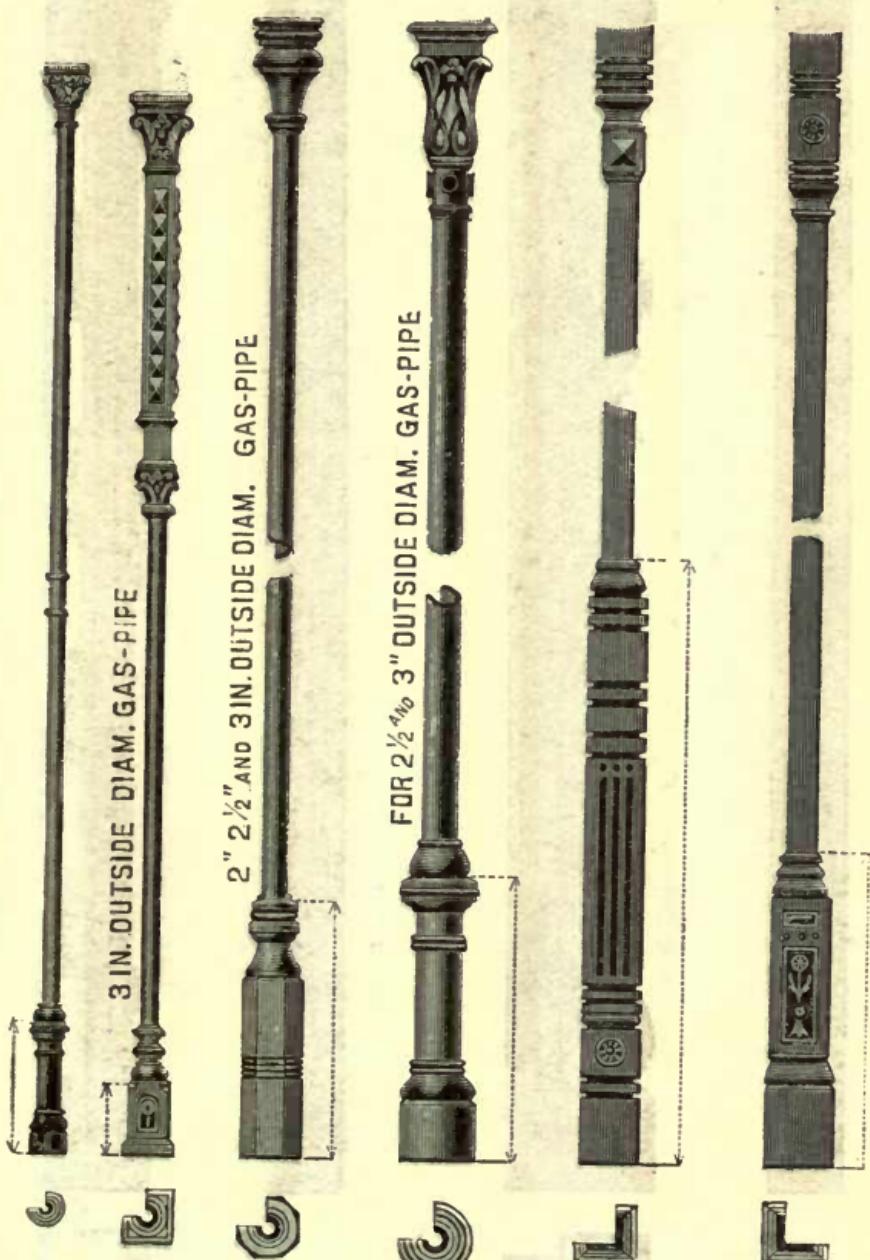


COLUMN N^o 46

Give thickness of
Metal.

DEARBORN FOUNDRY COMPANY.

GAS PIPE AND SASH COLUMNS.



Gas Pipe
Col. L.

No. 53.

Gas Pip
Col. No.

Gas
Col.

Angle Sash
Cat. No. 42

**Angle Sash
Cat. No. 44**



2½" diam. No.54
3" "

Gas Pipe
Col. No. 39

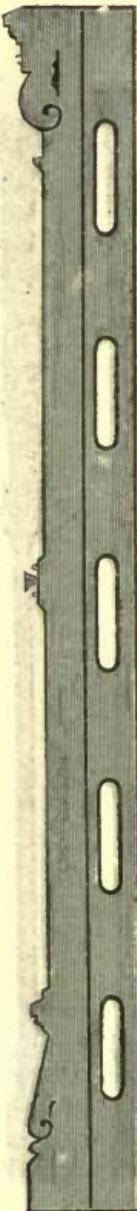
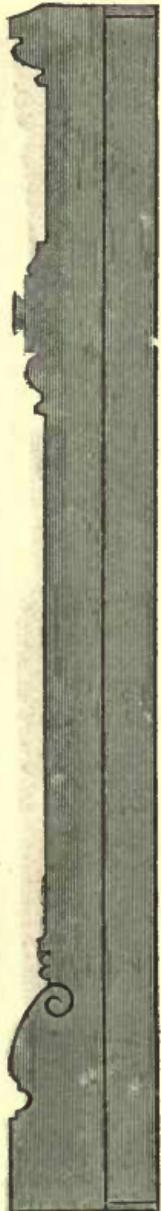
Gas Pipe
Col. No. 41

Sash Col.
No. 43

Sash Col.
No. 45

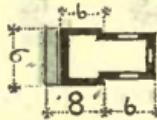
DEARBORN FOUNDRY COMPANY.

MULLIONS.



Mullion Column W.

Mullion Column X.



Square Mullions of same design and face can be made any depth desired. Give thickness of metal.

DEARBORN FOUNDRY COMPANY.

MULLIONS.



FRONT & SIDE VIEW OF MULLIONS N^o 20 & 21.



FRONT & SIDE VIEW OF MULLIONS N^o 22 & 23.



MULLION N^o 20.
8 FACE



MULLION N^o 22
8 FACE



MULLION N^o 21



MULLION N^o 23

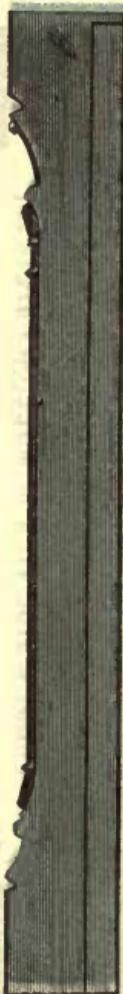
Square Mullions of same design and face can be made any depth desired. Give thickness of Metal.

DEARBORN FOUNDRY COMPANY.

MULLIONS.



Front and Side View of Mullions Nos. 24 and 25.



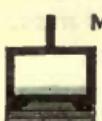
Front and Side View of Mullions Nos. 26 and 27.



MULLION NO. 24
8" FACE



MULLION NO. 26
9" FACE



MULLION NO. 25



MULLION NO. 27



Square Mullions of same design and face can be made any depth desired. Give thickness of metal.

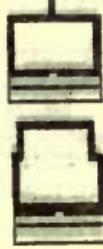
DEARBORN FOUNDRY COMPANY.

MULLIONS.

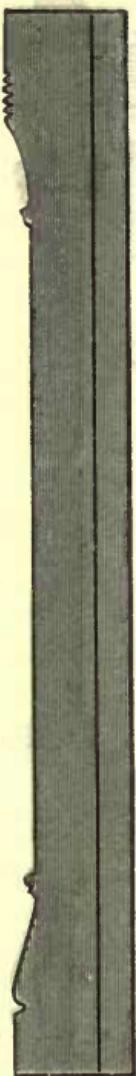


MULLION No 28

9' FACE



MULLION No 29



FRONT & SIDE VIEW OF MULLIONS No 28 & 29.



MULLION No 30

6' FACE

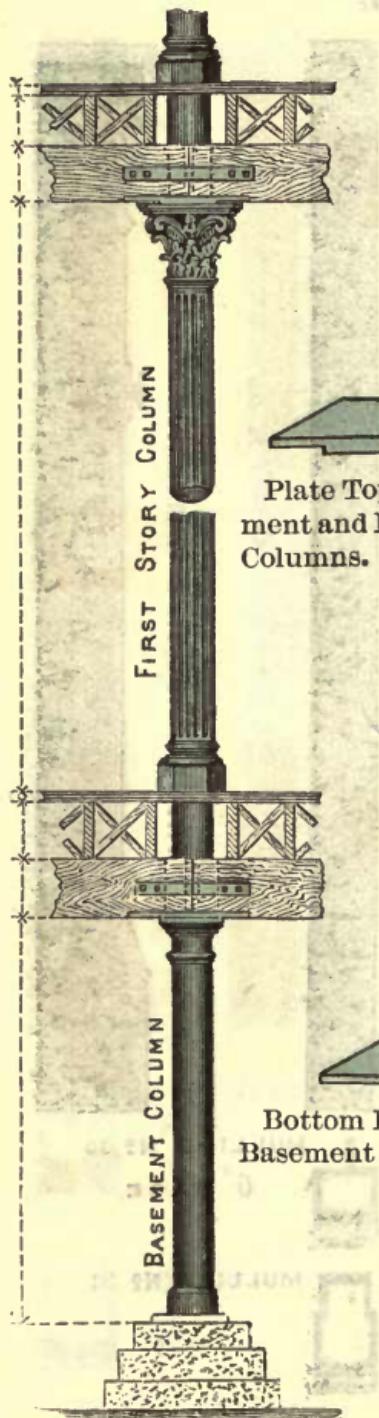


MULLION No 31

FRONT & SIDE VIEW OF MULLIONS No 30 & 31.

Square Mullions of same design and face can be made any depth desired. Give thickness of Metal.

DEARBORN FOUNDRY COMPANY.



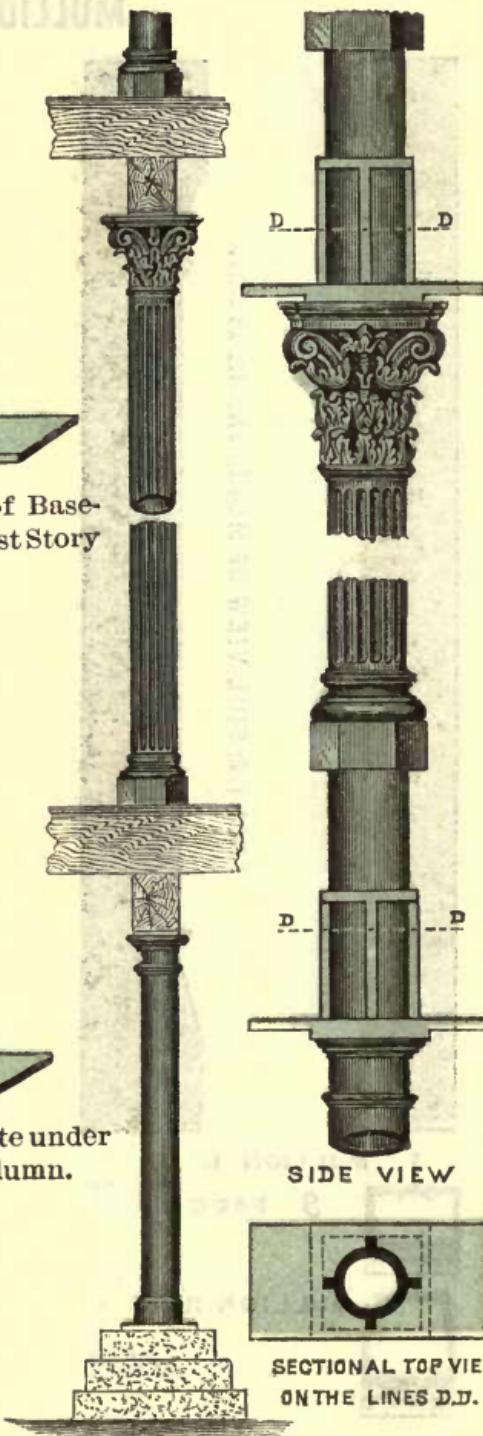
FIRST STORY COLUMN

BASEMENT COLUMN

Plate Top of Basement and First Story Columns.

Bottom Plate under Basement Column.

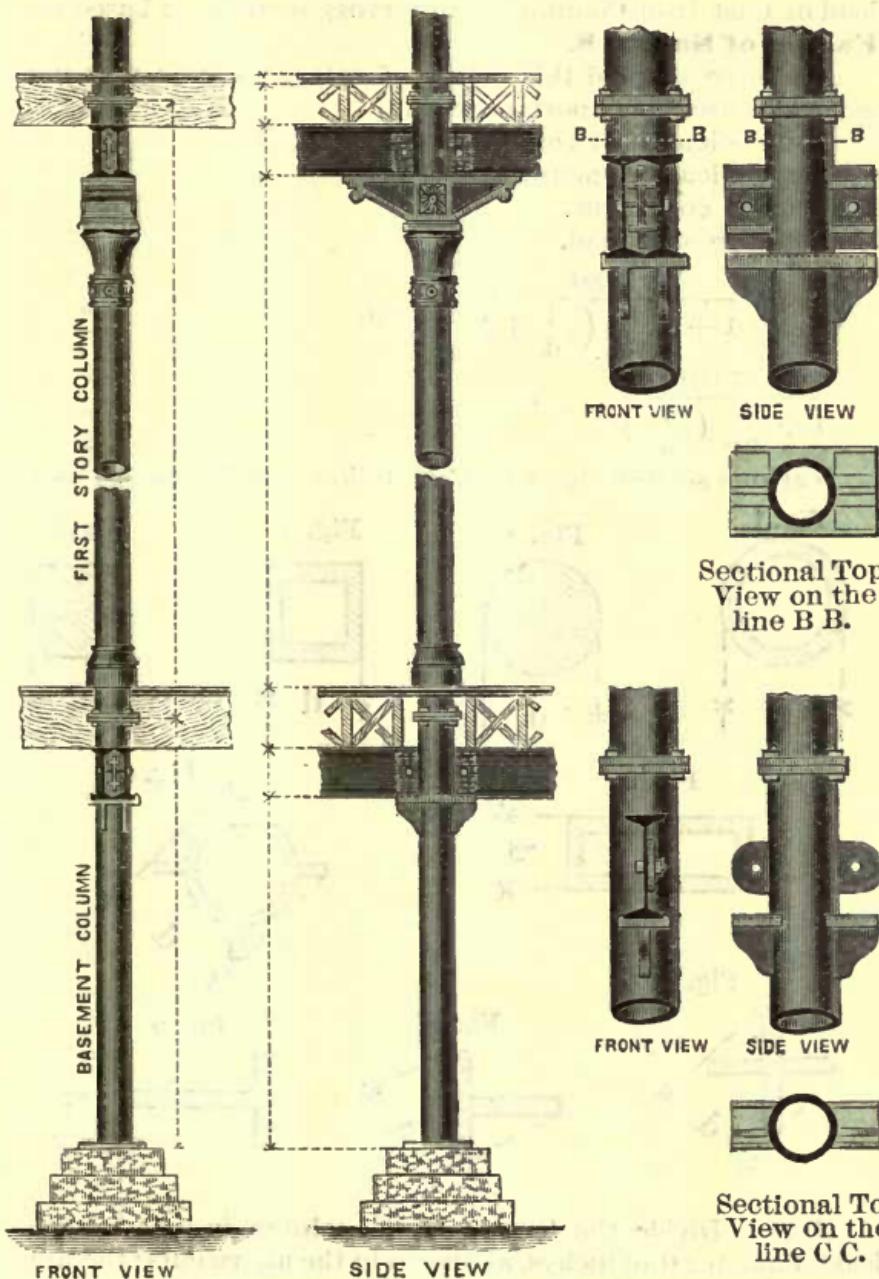
Side View.



Front View.

SECTIONAL TOP VIEW
ON THE LINES D-D.

DEARBORN FOUNDRY COMPANY.



Sectional Top
View on the
line B B.

Sectional Top
View on the
line C C.

DEARBORN FOUNDRY COMPANY.

STRENGTH OF CAST IRON COLUMNS.

The following table of Coefficients for determining the safe load of Cast Iron Columns of any cross section, is based on a **Factor of Safety 8.**

We have adopted this factor of safety as it is now more generally used in important work.

Let l = length of column in inches.

Let d = least diameter in inches.

Let C = coefficient.

Let W = safe load.

$$W = \frac{10000}{1 + \frac{1}{400} \left(\frac{l}{d} \right)^2} \times \text{area.}$$

$$\frac{10000}{1 + \frac{1}{400} \left(\frac{l}{d} \right)^2} = C$$

Various sections for which the following table can be used:—

Fig. 1



Fig. 2

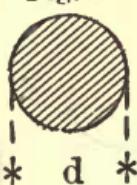


Fig. 3

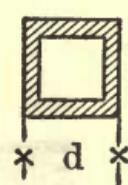


Fig. 4



Fig. 5

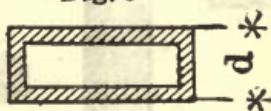


Fig. 6

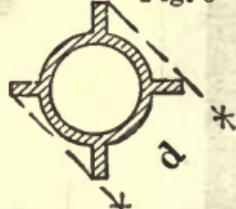


Fig. 7

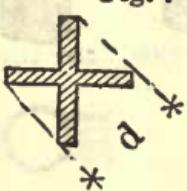


Fig. 8

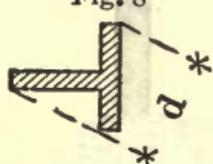
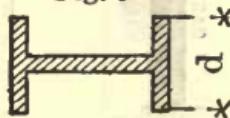


Fig. 9



RULE:—Divide the length of the column in inches by the least diameter d in inches, as shown in the above cuts; the number in column headed C of the table on opposite page, corresponding to the quotient $\frac{l}{d}$ so found multiplied by the area of cross section of the column in square inches, will give the safe load in tons of 2,000 lbs.

DEARBORN FOUNDRY COMPANY.

TABLE OF COEFFICIENTS FOR CAST IRON COLUMNS.

FACTOR OF SAFETY 8.

$\frac{1}{d}$	C Coefficient	$\frac{1}{d}$	C Coefficient	$\frac{1}{d}$	C Coefficient	$\frac{1}{d}$	C Coefficient	$\frac{1}{d}$	C Coefficient	$\frac{1}{d}$	C Coefficient
	Tons		Tons		Tons		Tons		Tons		Tons
1	4.98	13	3.51	25	1.95	37	1.13	49	0.71	61	0.48
2	4.95	14	3.35	26	1.85	38	1.08	50	0.68	62	0.47
3	4.89	15	3.20	27	1.77	39	1.04	51	0.66	63	0.45
4	4.80	16	3.04	28	1.68	40	1.00	52	0.64	64	0.44
5	4.70	17	2.90	29	1.61	41	0.96	53	0.62	65	0.43
6	4.58	18	2.76	30	1.53	42	0.92	54	0.60	66	0.42
7	4.45	19	2.62	31	1.46	43	0.88	55	0.58	67	0.40
8	4.31	20	2.50	32	1.40	44	0.85	56	0.56	68	0.39
9	4.15	21	2.37	33	1.34	45	0.82	57	0.54	69	0.38
10	4.00	22	2.26	34	1.28	46	0.79	58	0.53	70	0.37
11	3.83	23	2.15	35	1.23	47	0.76	59	0.51	71	0.36
12	3.67	24	2.04	36	1.17	48	0.73	60	0.50	72	0.35

EXAMPLE OF TABLE :—What is the safe load of a hollow rectangular Cast Iron Column (fig. 5) 6" face, 12" deep, 1" metal 10'-0" long?

$$\frac{1}{d} = \frac{10 \times 12}{6} = \frac{120}{6} = 20 \text{ inches.}$$

In column $\frac{1}{d}$ and opposite 20, find 2.5 Tons—

Area = 32 inches, which multiplied by 2.5 Tons =

W = $32 \times 2.5 = 80$ Tons safe load (factor of safety 8).

For the convenience of Architects, we have given a number of tables of Round, Square and Rectangular Columns, shown in the following pages, as a quicker method of determining the sizes of columns they desire to use, and have adopted the Formulas and Coefficients for the strength of Square and Rectangular Columns given by F. Schumann, C. E.

DEARBORN FOUNDRY COMPANY.

SAFE LOAD OF HOLLOW CYLINDRICAL CAST IRON COLUMNS.

ONE-EIGHTH THE BREAKING WEIGHT.

The following tables give the **Safe Load in Tons of 2,000 lbs.** for Columns having Capitals and Bases accurately turned to a true plane, having a perfectly fair bearing, and set with a degree of care usual in ordinary building. **For diameters or lengths intermediate of those in the tables,** the loads may be found near enough by simple proportion.

For Thicknesses less than those in the table, the loads may safely be assumed to diminish in the same proportion as the thickness, while the outer diameter remains the same. But for greater thicknesses than those in the table, the loads do not increase as rapidly as the new thickness. Still in practice they may be assumed to do so approximately, **if the new thickness does not exceed about 1-8 part of the outer diameter.**

SAFE LOAD IN TONS FOR CAST IRON COLUMNS WITH TURNED CAPITALS AND BASES.

External Diam. 3 inches.	External Diam. 4 inches.			External Diam. 5 inches.			External Diam. 6 inches.		
	Thickness of Metal.	Thickness of Metal.	Thickness of Metal.	Thickness of Metal.	Thickness of Metal.	Thickness of Metal.	Thickness of Metal.	Thickness of Metal.	Thickness of Metal.
3/2"	3/4"	1"	1 1/4"	5/8"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"
7	8.0	9.9	10.7	...	15.5	20.5	23.9	26.0	24.6
8	6.8	8.1	8.7	...	13.5	17.7	20.6	22.3	21.9
9	5.5	6.6	7.1	...	11.8	15.6	17.9	19.3	19.5
10	4.6	5.5	6.0	...	10.8	13.7	15.5	16.4	17.5
11	4.0	4.7	5.0	...	9.2	11.6	13.1	14.0	15.7
12	3.3	4.1	4.3	...	7.9	10.1	11.2	12.0	14.1
13	3.0	3.5	3.8	...	6.9	8.8	9.9	10.5	13.1
14	2.6	3.1	3.3	...	6.1	7.7	8.7	9.3	11.5
15	2.3	2.8	3.0	...	5.4	6.9	7.8	8.2	10.3
16	2.1	2.5	2.6	...	4.8	6.1	7.0	7.3	9.2
17	1.8	2.2	2.4	...	4.3	5.5	6.3	6.6	8.3
18	1.7	2.0	2.1	...	4.0	5.0	5.6	6.0	7.5
19	1.5	1.8	2.0	...	3.6	4.6	5.1	5.5	6.8
20	1.4	1.6	1.8	...	3.3	4.2	4.7	5.0	6.3
21	1.3	1.5	1.6	...	3.0	3.8	4.3	4.6	5.8
22	1.1	1.4	1.5	...	2.8	3.6	4.0	4.3	5.3
23	1.1	1.3	1.4	...	2.6	3.3	3.7	4.0	5.0
24	1.0	1.2	1.3	...	2.4	3.1	3.5	3.8	4.6
25	1.0	1.1	1.2	...	2.3	2.8	3.2	3.4	4.3
									5.6
									6.6
									7.1

SAFE LOAD IN TONS FOR CAST IRON COLUMNS WITH TURNED CAPITALS AND BASES.

Height feet	External Diameter, 8 inches.						External Diameter, 9 inches.						External Diameter, 10 inches.						External Diameter, 11 inches.									
	Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.						
	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$1\frac{1}{2}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$1\frac{1}{2}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$1\frac{1}{2}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$1\frac{1}{2}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$1\frac{1}{2}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$1\frac{1}{2}''$				
7	64.0	80.4	94.1	105.8	80.1	101.6	120.6	137.1	96.7	123.5	147.8	169.6	113.5	145.8	175.5	202.6	168.3	203.6	236.0	293.4	168.3	203.6	236.0	293.4	168.3	203.6	236.0	293.4
8	58.5	73.1	85.5	95.9	74.1	93.8	111.0	126.0	90.4	115.3	137.6	157.5	106.9	137.1	164.8	189.9	159.4	192.5	223.0	276.3	159.4	192.5	223.0	276.3	159.4	192.5	223.0	276.3
9	53.5	66.6	77.8	87.0	68.6	86.5	102.2	115.7	84.3	107.3	127.9	146.1	100.5	128.8	154.5	177.8	150.7	181.7	210.1	259.7	150.7	181.7	210.1	259.7	150.7	181.7	210.1	259.7
10	49.0	60.9	70.9	79.1	63.4	79.8	94.1	106.3	78.7	100.0	118.9	135.6	94.5	120.8	144.7	166.2	142.3	171.3	197.9	243.9	142.3	171.3	197.9	243.9	142.3	171.3	197.9	243.9
11	44.8	55.7	64.7	72.0	58.7	73.7	86.8	97.9	73.4	93.1	110.6	125.8	88.8	113.3	135.5	155.4	134.3	161.5	186.3	228.9	134.3	161.5	186.3	228.9	134.3	161.5	186.3	228.9
12	41.2	51.0	60.2	65.8	64.3	68.2	80.1	90.1	68.5	86.7	102.8	116.8	83.3	106.3	126.9	145.3	126.6	152.1	175.3	214.9	126.6	152.1	175.3	214.9	126.6	152.1	175.3	214.9
13	37.9	46.9	64.9	60.3	60.4	63.1	74.0	83.2	64.0	80.8	95.7	108.6	78.3	99.1	118.9	136.0	119.5	143.3	165.0	201.7	119.5	143.3	165.0	201.7	119.5	143.3	165.0	201.7
14	35.0	43.2	50.0	55.3	46.8	58.6	68.6	77.0	59.8	75.5	89.2	101.1	73.6	93.6	111.5	127.3	112.8	135.1	155.3	189.5	112.8	135.1	155.3	189.5	112.8	135.1	155.3	189.5
15	32.3	39.9	46.1	51.0	42.6	54.4	63.6	71.3	55.9	70.5	83.3	94.3	69.2	87.9	104.6	119.4	106.4	127.4	146.3	178.1	106.4	127.4	146.3	178.1	106.4	127.4	146.3	178.1
16	30.0	37.0	42.6	47.1	40.6	50.6	59.1	66.3	52.4	66.0	77.8	88.0	65.1	82.7	98.3	112.0	100.5	120.2	137.9	167.6	100.5	120.2	137.9	167.6	100.5	120.2	137.9	167.6
17	27.8	34.3	39.5	43.6	37.9	47.3	55.1	61.6	49.1	61.8	72.9	82.3	61.4	77.8	92.5	105.3	95.0	113.5	130.1	157.9	95.0	113.5	130.1	157.9	95.0	113.5	130.1	157.9
18	26.2	31.8	36.1	39.3	35.5	44.1	51.5	57.5	46.1	58.0	68.3	77.1	57.9	73.3	87.0	99.0	89.9	107.3	122.9	148.9	89.9	107.3	122.9	148.9	89.9	107.3	122.9	148.9
19	23.9	29.0	32.9	35.8	33.2	41.3	48.1	53.8	43.5	54.6	64.1	72.4	64.6	69.2	82.0	93.3	85.1	101.5	116.1	140.6	85.1	101.5	116.1	140.6	85.1	101.5	116.1	140.6
20	21.9	26.5	30.1	32.8	31.9	39.1	45.0	49.6	40.9	51.4	60.4	68.0	51.6	65.3	77.5	88.0	80.6	96.1	110.0	132.8	80.6	96.1	110.0	132.8	80.6	96.1	110.0	132.8
21	20.1	24.4	27.8	30.2	29.3	36.0	41.5	45.7	38.6	47.1	56.8	64.1	48.9	61.8	73.2	83.1	76.5	91.1	104.1	125.7	76.5	91.1	104.1	125.7	76.5	91.1	104.1	125.7
22	18.6	22.6	25.6	27.9	27.1	33.3	38.3	42.2	36.5	45.7	53.6	60.4	46.3	58.5	69.3	78.6	72.6	86.5	98.5	119.1	72.6	86.5	98.5	119.1	72.6	86.5	98.5	119.1
23	17.3	20.9	23.8	25.9	25.1	30.8	35.5	39.1	34.9	43.3	50.2	55.9	44.0	55.5	65.6	74.4	69.0	82.1	93.8	112.9	69.0	82.1	93.8	112.9	69.0	82.1	93.8	112.9
24	16.0	19.5	22.1	24.1	23.4	28.7	33.0	36.4	32.5	40.2	46.7	52.0	41.8	53.6	62.3	70.5	65.7	78.7	91.1	107.2	65.7	78.7	91.1	107.2	65.7	78.7	91.1	107.2
25	15.0	18.1	20.6	22.5	21.8	26.8	30.8	34.0	30.3	37.5	43.6	48.5	40.5	50.6	58.8	66.4	40.5	50.6	58.8	66.4	40.5	50.6	58.8	66.4	40.5	50.6	58.8	66.4

DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

SAFE LOAD IN TONS FOR CAST IRON COLUMNS WITH TURNED CAPITALS AND BASES.

Height in feet	External Diameter, 12 inches.						External Diameter, 13 inches.						External Diameter, 14 inches.						External Diameter, 15 inches.						External Diameter, 16 inches.											
	Thickness of Metal.						Thickness of Metal.						Thickness of Metal.						Thickness of Metal.						Thickness of Metal.											
	1"	1 1/4"	1 1/2"	2"	1"	1 1/4"	1 1/2"	2"	1"	1 1/4"	1 1/2"	2"	1"	1 1/4"	1 1/2"	2"	1"	1 1/4"	1 1/2"	2"	1"	1 1/4"	1 1/2"	2"	1"	1 1/4"	1 1/2"	2"								
7	190.8	231.7	269.8	338.0	213.4	259.0	303.5	382.9	236.0	288.1	337.4	427.8	258.5	316.5	371.2	472.9	281.1	344.4	405.0	517.8	235.0	287.0	336.0	405.0	233.0	333.0	391.4	499.8	272.0	333.0	391.4	499.8				
8	181.8	220.5	256.8	320.5	204.3	247.6	290.0	364.9	226.9	276.7	323.7	409.9	249.5	304.9	357.6	454.8	272.8	321.5	377.5	481.5	262.8	321.5	377.5	481.5	235.0	287.0	336.0	405.0	233.0	333.0	391.4	499.8				
9	172.8	209.3	243.1	303.1	195.2	236.5	276.5	347.1	217.8	265.2	310.1	391.8	240.2	293.4	343.8	436.5	231.0	281.8	330.1	418.3	253.5	310.0	363.6	463.0	235.0	287.0	336.0	405.0	233.0	333.0	391.4	499.8				
10	164.1	198.5	230.3	286.4	186.2	225.3	263.3	329.8	208.6	253.9	296.6	374.0	231.0	281.8	330.1	418.3	253.5	310.0	363.6	463.0	235.0	287.0	336.0	405.0	233.0	333.0	391.4	499.8	235.0	287.0	336.0	405.0				
11	155.7	188.1	218.0	270.5	177.5	214.6	250.3	313.1	199.6	242.8	283.3	356.6	221.9	270.6	316.4	400.5	244.1	298.3	349.8	444.8	235.0	287.0	336.0	405.0	233.0	333.0	391.4	499.8	235.0	287.0	336.0	405.0				
12	147.6	178.1	206.2	255.3	169.0	204.1	238.0	297.0	190.8	231.9	270.3	339.7	212.8	259.3	303.1	383.0	235.0	287.0	336.0	427.1	235.0	287.0	336.0	427.1	235.0	287.0	336.0	427.1	235.0	287.0	336.0	427.1				
13	139.9	168.7	195.1	241.0	160.9	194.2	226.1	281.6	182.8	221.4	257.9	323.5	204.1	248.5	290.3	366.1	226.0	275.7	322.9	409.4	217.2	264.8	309.9	392.5	217.2	264.8	309.9	392.5	217.2	264.8	309.9	392.5				
14	132.6	159.7	184.5	227.5	153.1	184.6	214.8	267.1	174.2	211.3	246.0	308.1	195.6	237.9	277.7	349.8	217.2	264.8	309.9	392.5	208.6	254.3	307.4	376.1	208.6	254.3	307.4	376.1	208.6	254.3	307.4	376.1				
15	125.7	151.3	174.6	214.9	145.7	175.6	204.0	253.3	166.3	201.6	234.5	293.3	187.4	227.8	265.7	334.3	208.6	254.3	307.4	376.1	208.6	254.3	307.4	376.1	208.6	254.3	307.4	376.1	208.6	254.3	307.4	376.1				
16	119.2	143.3	165.3	203.1	138.7	167.0	193.9	240.3	158.9	192.5	223.6	279.3	179.5	218.0	254.1	319.3	200.4	244.1	285.3	360.3	192.5	234.3	273.7	345.3	192.5	234.3	273.7	345.3	192.5	234.3	273.7	345.3				
17	113.1	135.9	156.6	192.1	132.0	159.0	184.3	228.1	151.8	183.7	213.3	266.0	171.9	208.7	243.1	305.0	192.5	234.3	273.7	345.3	184.8	224.9	262.5	330.8	177.5	215.8	251.8	317.0	177.5	215.8	251.8	317.0				
18	107.4	128.9	148.4	181.8	125.8	151.3	175.3	216.6	145.0	175.3	203.5	253.4	164.7	199.8	232.6	291.5	177.5	215.8	251.8	317.0	170.5	207.2	241.7	303.9	170.5	207.2	241.7	303.9	170.5	207.2	241.7	303.9				
19	102.0	122.3	140.8	172.2	119.8	144.1	166.8	206.9	138.5	167.5	194.2	241.5	157.8	191.3	222.6	278.6	177.5	215.8	251.8	317.0	170.5	207.2	241.7	303.9	170.5	207.2	241.7	303.9	170.5	207.2	241.7	303.9				
20	97.0	116.2	133.6	163.3	114.2	137.3	158.8	195.8	132.5	160.0	185.4	230.3	151.2	183.3	213.1	266.4	170.5	207.2	241.7	303.9	170.5	207.2	241.7	303.9	170.5	207.2	241.7	303.9	170.5	207.2	241.7	303.9				
21	92.3	110.5	127.0	154.9	109.0	130.9	151.3	186.3	126.6	152.9	177.1	219.8	145.0	175.6	204.0	254.8	163.8	193.0	232.0	291.3	157.4	191.1	222.7	279.5	151.3	183.6	213.9	262.5	145.5	176.5	205.5	257.4	140.0	169.7	197.5	247.2
22	87.8	105.1	120.8	147.1	104.0	124.9	144.3	177.5	121.2	146.2	169.3	209.9	139.0	168.3	195.5	243.9	157.4	191.1	222.7	279.5	151.3	183.6	213.9	262.5	145.5	176.5	205.5	257.4	140.0	169.7	197.5	247.2				
23	83.7	100.1	115.0	140.0	99.3	119.2	137.7	169.1	116.0	140.0	161.9	200.5	133.3	161.4	187.3	233.5	151.3	183.6	213.9	262.5	145.5	176.5	205.5	257.4	140.0	169.7	197.5	247.2	140.0	169.7	197.5	247.2				
24	79.8	95.5	109.5	133.2	95.0	113.9	131.5	161.4	111.1	134.0	155.0	191.7	128.0	154.8	179.6	223.8	145.5	176.5	205.5	257.4	122.9	148.6	172.4	214.5	106.5	128.3	148.4	183.8	122.9	148.6	172.4	214.5				
25	76.2	91.1	104.4	126.9	90.8	108.9	125.6	154.1	91.1	104.4	126.9	154.1	106.5	128.3	148.4	183.8	122.9	148.6	172.4	214.5	106.5	128.3	148.4	183.8	122.9	148.6	172.4	214.5	106.5	128.3	148.4	183.8				

DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON SQUARE COLUMNS, WITH TURNED CAPITALS AND BASES. FACTOR OF SAFETY OF 8.

Height H	4" x 4" square			5" x 5" square			6" x 6" square			7" x 7" square			8" x 8" square			9" x 9" square								
	Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.								
	½"	¾"	⅝"	⅓"	⅔"	⅕"	⅖"	⅗"	⅘"	⅙"	⅚"	⅛"	⅓"	⅔"	⅕"	⅔"	⅖"	⅗"						
7	16.6	20.0	23.1	26.0	32.0	37.3	42.3	46.9	52.8	60.1	67.1	79.6	68.9	88.2	105.0	121.0	85.2	109.0	132.0	152.0	101.0	131.0	159.0	184.0
8	14.3	17.2	19.9	22.4	28.4	33.1	37.5	41.6	48.0	64.6	66.0	97.2	63.8	81.6	97.8	112.0	79.9	102.0	124.0	143.0	96.2	124.0	160.0	174.0
9	12.4	14.9	17.2	19.3	25.2	29.4	33.3	36.9	43.5	49.5	65.2	65.5	58.8	75.3	90.2	103.0	74.6	96.1	115.0	133.0	90.9	117.0	142.0	165.0
10	10.7	12.9	15.0	16.8	22.4	26.1	29.5	32.7	39.3	44.8	50.0	59.3	54.1	69.1	83.0	95.3	69.6	89.6	108.0	124.0	85.7	110.0	134.0	155.0
11	9.4	11.3	13.0	14.6	19.9	23.2	26.3	29.2	35.6	40.5	45.2	63.7	49.7	63.7	76.3	87.6	64.7	83.3	100.0	116.0	80.3	103.0	125.0	146.0
12	8.2	9.9	11.5	12.9	17.8	20.7	23.4	26.0	32.2	36.7	40.9	48.6	45.5	58.2	69.7	80.0	60.1	77.3	93.2	107.0	75.4	97.5	118.0	137.0
13	7.2	8.7	10.1	11.3	15.9	18.5	21.0	23.3	29.2	33.3	37.1	44.1	41.8	53.5	64.1	73.5	55.7	71.7	86.5	100.0	70.7	91.3	110.0	128.0
14	6.4	7.8	9.0	10.1	14.3	16.6	18.8	20.9	26.6	30.3	33.7	40.1	38.4	49.1	58.9	67.6	51.7	66.5	80.2	92.7	66.0	85.3	103.0	120.0
15	5.7	6.9	8.0	9.0	12.8	16.0	17.0	18.8	24.2	27.6	30.7	36.5	35.3	45.2	54.2	62.2	48.0	61.8	74.4	86.0	61.8	80.0	96.8	112.0
16	5.1	6.2	7.2	8.0	11.6	13.0	15.4	17.0	22.1	25.1	28.0	33.3	32.5	41.7	49.9	57.3	44.5	57.3	69.1	79.9	57.9	74.9	90.7	105.0
17	4.6	5.6	6.4	7.2	10.6	12.3	13.9	15.5	20.2	23.0	25.7	30.6	30.0	38.5	46.1	52.9	41.4	53.3	64.2	74.2	54.0	70.0	84.6	98.3
18	4.2	5.0	5.8	6.6	9.6	11.2	12.7	14.1	18.5	21.1	23.5	28.0	27.6	35.4	42.4	48.6	38.5	49.5	59.8	69.0	50.7	65.5	79.3	92.5
19	3.8	4.6	5.3	6.0	8.8	10.2	11.6	12.9	17.0	19.4	21.6	25.7	25.6	32.8	39.3	45.1	35.8	46.2	55.7	64.3	47.5	61.5	74.5	86.5
20	3.5	4.2	4.8	5.4	8.0	9.4	10.6	11.8	15.7	17.9	20.0	23.7	23.7	30.4	36.2	41.8	33.4	43.0	51.9	59.9	44.4	57.6	69.7	80.8
21	...	...	...	...	7.4	8.6	9.8	10.8	14.5	16.5	18.4	21.9	22.1	28.3	33.9	38.9	31.2	40.2	48.4	56.0	41.8	54.0	65.4	76.0
22	...	...	...	...	6.8	7.9	9.0	10.3	13.4	15.3	17.1	20.3	20.5	26.3	31.5	36.2	29.2	37.6	45.3	62.3	39.3	50.8	61.5	71.5
23	...	...	...	...	...	...	...	...	12.5	14.2	15.8	18.8	19.2	24.6	29.4	33.8	27.3	35.2	42.4	49.0	36.8	47.6	57.7	67.0
24	...	...	...	...	...	...	...	...	11.6	13.2	14.7	17.5	17.9	22.9	27.5	31.5	25.6	33.0	39.7	45.9	34.7	44.9	54.4	63.1
25	16.7	21.4	25.7	29.5	24.0	30.9	37.3	43.1	32.8	42.4	51.3	49.5	30.8	39.9	48.3	56.1
26	15.6	20.0	24.0	27.6	22.6	29.1	35.1	40.6	30.8	39.9	48.3	56.1	29.1	37.7	45.6	53.1
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DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON SQUARE COLUMNS, WITH TURNED CAPITALS AND BASES. FACTOR OF SAFETY 8.

Thickness of Metal in feet	10" x 10" square			11" x 11" square			12" x 12" square			13" x 13" square			14" x 14" square			
	Thickness of Metal															
3/4"	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"	
7	117	152	184	215	134	174	212	248	150	195	239	280	356	217	265	311
8	112	146	177	207	129	168	204	239	145	189	231	271	344	210	258	303
9	107	139	169	197	123	161	196	229	140	182	223	261	332	204	250	294
10	102	132	160	187	118	154	187	219	135	176	215	252	320	198	242	284
11	96	125	152	177	113	147	179	209	129	168	206	241	307	191	234	274
12	91	118	144	167	107	139	170	199	124	161	197	231	294	183	224	263
13	86	111	136	158	102	132	162	189	118	154	188	221	281	176	216	253
14	81	105	128	149	97	126	154	180	113	147	180	211	268	169	207	243
15	76	99	120	140	92	120	146	171	108	140	172	201	256	162	199	233
16	72	93	113	132	87	114	139	162	102	134	163	192	243	155	189	223
17	68	88	107	124	82	107	131	153	97	127	155	182	232	148	181	213
18	64	83	101	117	78	102	124	145	93	121	148	174	220	142	173	204
19	60	78	95	110	74	96	117	137	88	115	141	165	210	135	166	195
20	56	73	89	104	70	91	111	130	84	110	134	157	200	129	159	186
21	53	69	84	98	66	86	105	123	80	104	127	149	190	124	152	178
22	50	65	79	92	63	81	99	116	73	99	121	142	180	118	144	169
23	47	62	75	87	59	77	94	110	72	94	115	135	172	113	138	162
24	44	58	71	82	56	73	89	104	69	90	110	129	163	108	132	155
25	42	55	67	78	53	69	85	99	65	85	104	122	156	102	125	147
26	40	52	63	74	51	66	81	94	62	81	99	117	148	98	120	141
27	38	49	60	70	48	63	77	90	59	77	95	111	141	94	115	135
28	36	47	57	66	46	60	74	86	57	74	90	106	135	90	106	129

DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON SQUARE COLUMNS, WITH TURNED CAPITALS AND BASES. FACTOR OF SAFETY 8.

H Height Feet	15" x 15" square						16" x 16" square						17" x 17" square						18" x 18" square						19" x 19" square																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Thickness of Metal			Thickness of Metal			Thickness of Metal			Thickness of Metal			Thickness of Metal			Thickness of Metal			Thickness of Metal			Thickness of Metal			Thickness of Metal																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
7	259	318	375	482	281	345	407	525	605	301	371	438	565	632	700	469	535	606	735	843	923	500	648	788	7	253	312	366	472	564	630	700	776																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
8	247	304	357	461	269	321	390	503	590	290	357	422	545	612	687	723	417	493	569	639	738	838	917	500	648	788	8	247	304	357	461	564	630	700	764																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
9	241	296	348	449	263	323	381	491	584	284	349	413	533	606	676	745	811	887	957	1021	1121	1221	1321	1421	1521	1621	1721	1821	1921	2021	2121	2221	2321	2421	2521	2621	2721	2821	2921	3021	3121	3221	3321	3421	3521	3621	3721	3821	3921	4021	4121	4221	4321	4421	4521	4621	4721	4821	4921	5021	5121	5221	5321	5421	5521	5621	5721	5821	5921	6021	6121	6221	6321	6421	6521	6621	6721	6821	6921	7021	7121	7221	7321	7421	7521	7621	7721	7821	7921	8021	8121	8221	8321	8421	8521	8621	8721	8821	8921	9021	9121	9221	9321	9421	9521	9621	9721	9821	9921	10021	10121	10221	10321	10421	10521	10621	10721	10821	10921	11021	11121	11221	11321	11421	11521	11621	11721	11821	11921	12021	12121	12221	12321	12421	12521	12621	12721	12821	12921	13021	13121	13221	13321	13421	13521	13621	13721	13821	13921	14021	14121	14221	14321	14421	14521	14621	14721	14821	14921	15021	15121	15221	15321	15421	15521	15621	15721	15821	15921	16021	16121	16221	16321	16421	16521	16621	16721	16821	16921	17021	17121	17221	17321	17421	17521	17621	17721	17821	17921	18021	18121	18221	18321	18421	18521	18621	18721	18821	18921	19021	19121	19221	19321	19421	19521	19621	19721	19821	19921	20021	20121	20221	20321	20421	20521	20621	20721	20821	20921	21021	21121	21221	21321	21421	21521	21621	21721	21821	21921	22021	22121	22221	22321	22421	22521	22621	22721	22821	22921	23021	23121	23221	23321	23421	23521	23621	23721	23821	23921	24021	24121	24221	24321	24421	24521	24621	24721	24821	24921	25021	25121	25221	25321	25421	25521	25621	25721	25821	25921	26021	26121	26221	26321	26421	26521	26621	26721	26821	26921	27021	27121	27221	27321	27421	27521	27621	27721	27821	27921	28021	28121	28221	28321	28421	28521	28621	28721	28821	28921	29021	29121	29221	29321	29421	29521	29621	29721	29821	29921	30021	30121	30221	30321	30421	30521	30621	30721	30821	30921	31021	31121	31221	31321	31421	31521	31621	31721	31821	31921	32021	32121	32221	32321	32421	32521	32621	32721	32821	32921	33021	33121	33221	33321	33421	33521	33621	33721	33821	33921	34021	34121	34221	34321	34421	34521	34621	34721	34821	34921	35021	35121	35221	35321	35421	35521	35621	35721	35821	35921	36021	36121	36221	36321	36421	36521	36621	36721	36821	36921	37021	37121	37221	37321	37421	37521	37621	37721	37821	37921	38021	38121	38221	38321	38421	38521	38621	38721	38821	38921	39021	39121	39221	39321	39421	39521	39621	39721	39821	39921	40021	40121	40221	40321	40421	40521	40621	40721	40821	40921	41021	41121	41221	41321	41421	41521	41621	41721	41821	41921	42021	42121	42221	42321	42421	42521	42621	42721	42821	42921	43021	43121	43221	43321	43421	43521	43621	43721	43821	43921	44021	44121	44221	44321	44421	44521	44621	44721	44821	44921	45021	45121	45221	45321	45421	45521	45621	45721	45821	45921	46021	46121	46221	46321	46421	46521	46621	46721	46821	46921	47021	47121	47221	47321	47421	47521	47621	47721	47821	47921	48021	48121	48221	48321	48421	48521	48621	48721	48821	48921	49021	49121	49221	49321	49421	49521	49621	49721	49821	49921	50021	50121	50221	50321	50421	50521	50621	50721	50821	50921	51021	51121	51221	51321	51421	51521	51621	51721	51821	51921	52021	52121	52221	52321	52421	52521	52621	52721	52821	52921	53021	53121	53221	53321	53421	53521	53621	53721	53821	53921	54021	54121	54221	54321	54421	54521	54621	54721	54821	54921	55021	55121	55221	55321	55421	55521	55621	55721	55821	55921	56021	56121	56221	56321	56421	56521	56621	56721	56821	56921	57021	57121	57221	57321	57421	57521	57621	57721	57821	57921	58021	58121	58221	58321	58421	58521	58621	58721	58821	58921	59021	59121	59221	59321	59421	59521	59621	59721	59821	59921	60021	60121	60221	60321	60421	60521	60621	60721	60821	60921	61021	61121	61221	61321	61421	61521	61621	61721	61821	61921	62021	62121	62221	62321	62421	62521	62621	62721	62821	62921	63021	63121	63221	63321	63421	63521	63621	63721	63821	63921	64021	64121	64221	64321	64421	64521	64621	64721	64821	64921	65021	65121	65221	65321	65421	65521	65621	65721	65821	65921	66021	66121	66221	66321	66421	66521	66621	66721	66821	66921	67021	67121	67221	67321	67421	67521	67621	67721	67821	67921	68021	68121	68221	68321	68421	68521	68621	68721	68821	68921	69021	69121	69221	69321	69421	69521	69621	69721	69821	69921	70021	70121	70221	70321	70421	70521	70621	70721	70821	70921	71021	71121	71221	71321	71421	71521	71621	71721	71821	71921	72021	72121	72221	72321	72421	72521	72621	72721	72821	72921	73021	73121	73221	73321	73421	73521	73621	73721	73821	73921	74021	74121	74221	74321	74421	74521	74621	74721	74821	74921	75021	75121	75221	75321	75421	75521	75621	75721	75821	75921	76021	76121	76221	76321	76421	76521	76621	76721	76821	76921	77021	77121	77221	77321	77421	77521	77621	77721	77821	77921	78021	78121	78221	78321	78421	78521	78621	78721	78821	78921	79021	79121	79221	79321	79421	79521	79621	79721	79821	79921	80021	80121	80221	80321	80421	80521	80621	80721	80821	80921	81021	81121	81221	81321	81421	81521	81621	81721	81821	81921	82021	82121	82221	82321	82421	82521	82621	82721	82821	82921	83021	83121	83221	83321	83421	83521	83621	83721	83821	83921	84021	84121	84221	84321	84421	84521	84621	84721	84821	84921	85021	85121	85221	85321	85421	85521	85621	85721	85821	85921	86021	86121	86221	86321	86421	86521	86621	86721	86821	86921	87021	87121	87221	87321	87421	87521	87621	87721	87821	87921	88021	88121	88221	88321	88421	88521	88621	88721	88821	88921	89021	89121	89221	89321	89421	89521	89621	89721	89821	89921	90021	90121	90221	90321	90421	90521	90621	90721	90821	90921	91021	91121	91221	91321	91421	91521	91621	91721	91821	91921	92021	92121	92221	92321	92421	92521	92621	92721	92821	92921	93021	93121	93221	93321	93421	93521	93621	93721	93821	93921	94021	94121	94221	94321	94421	94521	94621	94721	94821	94921	95021	95121	95221	95321	95421	95521	95621	95721	95821	95921	96021	96121	96221	96321	96421	96521	96621	96721	96821	96921	97021	97121	97221	97321	97421	97521	97621	97721	97821	97921	98021	98121	98221	98321	98421	98521	98621	98721	98821	98921	99021	99121	99221	99321	99421	99521	99621	99721	99821	99921	100021	100121	100221	100321	100421	100521	100621	100721	100821	100921

DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON SQUARE COLUMNS, WITH TURNED CAPITALS AND BASES. FACTOR OF SAFETY 8.

Height in feet	20" x 20" square				21" x 21" square				22" x 22" square				24" x 24" square				
	Thickness of Metal.				Thickness of Metal.				Thickness of Metal.				Thickness of Metal.				
	1"	1 1/4"	1 1/2"	2"	1"	1 1/4"	1 1/2"	2"	1"	1 1/4"	1 1/2"	2"	1"	1 1/4"	1 1/2"	2"	
7	364	449	532	690	838	985	1175	1563	731	890	1050	1205	552	655	854	1041	1221
8	359	443	525	681	827	980	1169	1556	722	879	1040	1194	547	649	846	1032	1210
9	354	437	518	671	815	975	1163	1549	713	868	1035	1185	541	642	837	1022	1199
10	349	430	510	660	802	970	1157	1542	703	858	1030	1177	535	635	828	1010	1185
11	343	422	500	648	788	961	1145	1534	692	842	1085	1171	529	628	819	999	1171
12	336	414	491	636	773	957	1136	1525	680	826	1079	1155	522	620	808	986	1155
13	330	407	482	625	759	951	1133	1515	667	811	1065	1137	515	610	795	971	1137
14	323	398	472	613	744	945	1125	1504	655	797	1066	1120	507	601	783	957	1120
15	316	390	462	600	728	938	1117	1494	642	781	1060	1103	501	591	771	943	1103
16	309	380	451	586	711	931	1109	1484	630	765	1053	1085	499	581	758	926	1085
17	302	372	441	572	694	924	1100	1474	616	749	1046	1066	481	571	745	910	1066
18	294	363	430	558	677	916	991	1463	601	732	1038	1048	472	561	732	895	1048
19	286	354	419	544	660	909	981	1452	587	715	1031	1039	464	551	719	878	1029
20	279	345	409	530	644	902	972	1441	573	698	1023	1029	455	540	704	860	1009
21	272	336	398	516	627	994	1000	1430	559	681	1016	1016	446	530	690	843	988
22	265	326	387	502	610	986	953	1419	544	663	1009	1009	437	518	676	825	967
23	258	317	376	488	593	979	944	1408	530	645	1002	1002	428	507	662	808	947
24	250	308	366	474	576	972	935	1398	517	629	994	994	419	496	647	791	926
25	243	300	355	461	560	965	926	1388	503	613	987	987	421	547	667	854	905
26	236	291	345	448	543	958	918	1377	490	597	980	980	410	533	650	800	884
27	229	283	335	435	528	951	910	1367	477	581	972	972	399	519	623	737	864
28	222	275	325	422	513	944	901	1357	463	565	965	965	389	506	616	721	845

DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON RECTANGULAR COLUMNS,
WITH TURNED CAPITALS AND BASES. FACTOR OF SAFETY 8.

Height in Feet.	3" x 4"		3" x 6"		4" x 6"		4" x 8"		5" x 7"		5" x 10"		6" x 8"		6" x 9"		
	Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		
	%	%	1"	1"	3/4"	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"	3/4"	1"	
7	13.9	15.5	16.9	19.0	23.6	30.3	38.0	44.3	38.0	47.6	66.0	46.2	69.1	70.0	59.4	76.2	91.6
8	11.6	12.9	14.0	15.8	19.5	26.2	33.0	38.5	33.0	41.0	48.7	41.1	52.0	61.0	52.7	67.7	81.3
9	9.5	10.7	11.8	13.3	16.5	22.7	28.3	33.5	28.5	35.5	42.1	36.5	46.2	54.8	46.7	60.1	72.2
10	8.3	9.2	10.0	11.3	14.2	19.5	25.0	29.0	24.5	31.0	37.0	32.3	41.0	48.7	41.5	53.3	64.0
11	7.1	7.9	8.6	9.7	12.0	17.0	21.6	25.3	21.5	27.3	32.0	28.6	36.7	43.3	37.0	47.7	57.0
12	6.1	6.8	7.5	8.3	10.4	15.0	18.8	22.0	19.0	23.5	28.0	25.5	32.5	38.6	33.0	42.3	50.6
13	5.3	5.9	6.4	7.3	9.0	13.3	16.5	19.5	16.5	21.0	25.0	23.0	29.2	35.0	28.2	37.8	46.0
14	4.7	5.2	5.7	6.4	8.0	11.7	14.7	17.5	14.7	18.5	22.1	27.0	26.3	31.5	25.9	34.0	41.0
15	4.2	4.7	5.0	5.5	7.0	10.5	13.2	15.5	13.0	16.5	19.7	18.6	23.6	28.3	23.9	30.7	36.8
16	3.7	4.1	4.5	5.0	6.2	9.5	11.7	14.0	11.7	14.8	17.5	16.8	21.2	25.5	21.5	28.0	33.5
17	3.3	3.7	4.0	4.5	5.5	8.6	10.5	12.4	10.5	13.3	15.8	15.3	19.3	23.0	19.5	25.5	30.3
18	3.0	3.3	3.6	4.1	5.0	7.7	9.5	11.2	9.5	12.0	14.3	13.9	17.6	21.0	17.9	23.0	27.5
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DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

**SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON RECTANGULAR COLUMNS,
WITH TURNED CAPITALS AND BASES. FACTOR OF SAFETY 8.**

Height feet, in	6" x 10"			6" x 12"			7" x 10"			7" x 12"			7" x 14"			8" x 10"			8" x 12"			8" x 14"		
	Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.		
	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"
7	73.0	94.0	113	83.0	107	130	85.5	110	133	96.5	125	151	107	139	170	96.9	125	152	109	141	171	121	156	191
8	66.5	85.0	103	75.0	97	118	79.0	102	123	89.0	115	140	99	129	157	89.2	117	142	102	132	160	112	147	179
9	60.1	77.2	93	68.0	88	107	73.0	94	113	82.5	106	129	92	119	145	84.7	110	133	95	123	150	105	137	167
10	54.3	70.0	84	61.8	80	96	67.5	87	105	76.0	98	120	85	110	134	79.2	102	124	88	115	140	91	119	145
11	49.0	63.7	76	56.0	73	87	62.0	80	96	70.0	90	110	78	101	123	73.6	95	116	82	107	130	91	119	145
12	44.5	57.3	69	50.7	65	79	56.5	72	88	63.8	82	100	71	93	112	68.0	88	107	77	99	120	85	110	134
13	40.3	51.5	63	46.2	59	72	51.5	66	81	58.5	76	92	65	85	103	63.4	82	99	71	92	112	79	102	125
14	36.6	47.0	57	42.0	54	65	47.6	61	74	53.8	69	84	60	77	94	58.8	76	92	66	85	104	73	95	116
15	33.4	43.0	51	38.0	49	59	43.8	56	68	49.6	64	78	55	72	87	54.7	70	85	61	79	96	68	88	107
16	30.8	39.3	47	35.0	45	54	40.5	52	63	45.5	59	72	51	66	81	50.9	65	79	56	74	90	63	82	100
17	28.0	36.0	43	32.0	41	49	37.3	48	58	42.0	54	66	47	61	74	47.0	61	74	68	83	99	58	76	93
18	25.6	33.0	39	29.2	37	45	34.3	44	53	38.8	50	60	43	56	68	43.9	56	63	46	59	72	51	66	86
19	23.5	30.5	36	26.8	34	42	32.0	41	49	36.0	46	56	40	52	63	38.0	52	63	46	59	72	51	66	86
20	21.7	28.0	33	24.7	32	38	29.8	38	46	33.5	43	52	37	48	58	37.8	49	59	43	55	67	47	61	75
21	20.1	25.8	31	22.9	29	35	27.5	35	42	31.0	40	48	34	44	54	35.2	45	55	40	51	63	44	57	70
22	18.7	23.8	28	21.3	27	33	25.6	33	40	28.6	37	45	32	42	51	32.7	43	51	37	48	58	41	53	65
23	17.3	22.1	26	19.7	25	30	23.8	30	37	26.6	34	42	30	39	47	30.8	40	48	35	45	55	38	50	61
24	16.0	20.6	24	18.3	23	28	22.2	28	34	25.1	32	39	28	36	44	29.2	39	45	32	42	51	36	47	57
25	15.0	19.3	23	17.0	22	26	20.7	26	32	24.0	30	37	26	34	41	27.8	37	43	31	40	48	34	44	54

DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON RECTANGULAR COLUMNS,
WITH TURNED CAPITALS AND BASES. FACTOR OF SAFETY 8.

Height in feet.	8" x 16"				9" x 12"				9" x 14"				9" x 16"				9" x 18"				10" x 15"				10" x 18"				
	Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		Thickness of Metal.		
	3/4"	1"	1 1/4"	2 1/4"	3/4"	1"	1 1/4"	2 1/4"	3/4"	1"	1 1/4"	2 1/4"	3/4"	1"	1 1/4"	2 1/4"	3/4"	1"	1 1/4"	2 1/4"	3/4"	1"	1 1/4"	2 1/4"	3/4"	1"	1 1/4"	2 1/4"	
7	132	172	210	250	120	156	190	133	173	210	145	189	231	157	205	252	150	196	239	169	221	271	182	238	292	182	238	292	
8	123	161	197	210	113	148	180	126	163	199	137	179	219	149	194	238	143	187	228	161	211	258	173	228	279	173	228	279	
9	115	151	184	197	140	169	119	154	188	129	169	207	141	184	225	136	178	217	153	201	246	165	217	266	165	217	266		
10	108	140	172	180	101	132	159	112	145	177	122	159	195	133	173	212	129	169	206	146	191	234	157	206	253	157	206	253	
11	101	130	159	166	95	124	150	105	136	166	115	149	183	125	163	199	122	160	195	138	181	222	149	195	240	149	195	240	
12	93	121	148	166	116	141	98	128	156	108	140	172	117	153	187	116	151	184	131	171	210	141	184	226	141	184	226		
13	86	112	137	153	108	132	92	120	146	101	131	162	110	143	175	110	143	174	124	161	198	133	174	213	133	174	213		
14	80	104	127	142	78	101	124	86	112	137	94	123	151	103	134	164	104	135	164	117	152	187	125	164	201	125	164	201	
15	74	97	118	133	95	116	81	105	128	88	115	141	96	125	153	98	127	155	110	143	176	118	155	190	118	155	190		
16	69	90	110	128	68	99	108	76	98	120	82	107	132	90	117	143	92	120	146	104	135	166	111	146	179	111	146	179	
17	64	83	102	120	64	83	101	71	92	112	77	100	123	84	109	134	86	113	138	98	127	156	105	138	169	105	138	169	
18	59	78	95	106	78	95	66	86	105	72	94	115	78	102	125	81	106	130	92	120	147	99	130	159	99	130	159		
19	55	72	89	99	56	73	89	62	81	98	68	88	108	73	96	118	76	100	122	86	113	139	93	122	150	93	122	150	
20	51	67	83	93	53	68	84	68	76	92	64	83	101	68	90	110	72	94	115	81	106	131	88	115	141	88	115	141	
21	48	63	77	86	64	78	54	71	86	60	78	95	64	84	103	68	89	108	77	100	123	83	109	133	83	109	133		
22	45	59	72	74	47	60	74	51	67	81	56	73	89	60	79	97	64	84	102	72	94	116	78	103	125	78	103	125	
23	42	55	68	44	57	69	48	63	76	53	66	84	57	74	91	60	79	96	68	89	110	74	97	118	74	97	118		
24	39	52	63	41	64	65	45	59	72	50	64	85	54	70	86	51	66	81	54	66	80	61	66	80	61	66	80	61	
25	38	49	59	39	51	61	43	51	61	43	51	61	43	51	61	43	51	61	43	51	61	43	51	61	43	51	61	43	51

DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

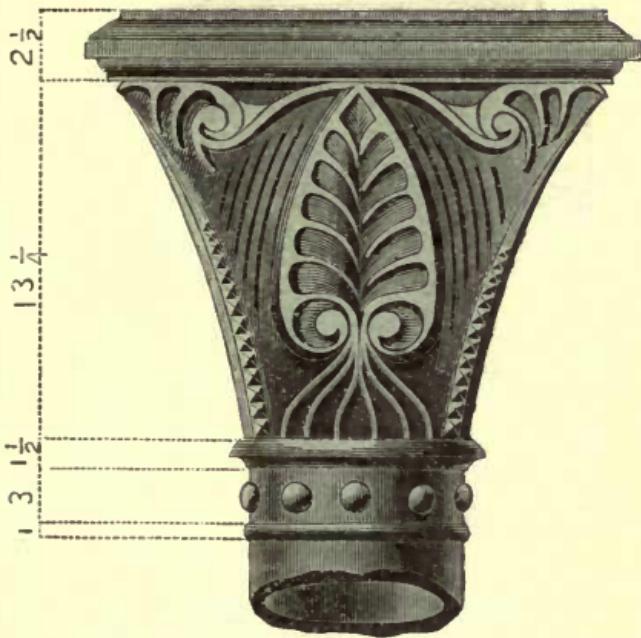
**SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON RECTANGULAR COLUMNS,
WITH TURNED CAPITALS AND BASES. FACTOR OF SAFETY 8.**

Height feet.	11" x 15"			11" x 18"			11" x 22"			12" x 14"			12" x 16"			12" x 18"			12" x 20"			12" x 24"				
	Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.				
	1"	1½"	1¾"	1"	1¼"	1½"	1"	1¼"	1½"	1"	1¼"	1½"	1"	1¼"	1½"	1"	1¼"	1½"	1"	1¼"	1½"	1"	1¼"	1½"	1"	1¼"
7	209	254	301	236	289	340	271	333	393	214	262	307	232	284	334	249	303	361	267	328	388	303	373	441		
8	201	245	290	227	278	327	261	321	378	207	253	297	224	275	323	241	294	349	258	317	375	293	361	426		
9	193	236	278	218	267	314	250	308	362	200	244	287	216	265	312	233	285	337	249	306	362	283	348	411		
10	185	226	266	208	256	301	229	294	346	192	235	276	208	255	300	224	275	324	240	295	348	261	325	396		
11	176	216	254	198	244	287	228	280	330	184	226	265	200	244	288	215	264	311	231	284	334	261	322	381		
12	167	206	242	189	232	273	217	267	314	177	217	253	191	234	276	206	253	298	221	272	320	250	308	365		
13	159	196	230	180	220	260	206	253	299	169	207	242	183	224	264	197	242	285	211	260	306	239	294	349		
14	151	186	218	171	209	247	195	240	284	161	197	231	175	214	252	188	231	272	201	248	292	228	281	333		
15	143	176	207	162	198	234	185	228	269	154	188	221	167	204	240	179	220	259	192	236	278	218	268	317		
16	136	166	196	154	188	222	175	216	256	146	179	210	159	194	229	171	210	247	183	225	265	208	255	302		
17	129	157	186	146	178	210	166	205	243	139	171	200	151	185	218	163	200	235	174	214	253	198	243	287		
18	122	149	176	138	169	199	157	194	231	132	162	190	144	176	207	155	190	224	166	204	241	188	231	273		
19	116	141	167	130	160	188	149	184	219	126	154	181	137	167	197	147	181	213	158	194	229	179	220	260		
20	110	133	158	123	151	178	141	174	207	120	147	172	130	159	188	140	172	203	150	185	218	170	209	248		
21	104	126	150	116	143	169	134	165	196	114	140	164	124	151	179	133	164	193	143	176	207	162	199	236		
22	98	120	142	110	136	160	127	156	185	108	133	156	118	144	170	127	156	184	136	167	197	154	190	224		
23	93	114	134	104	129	152	120	148	175	103	127	149	112	137	162	121	148	176	129	159	188	147	181	213		
24	88	108	127	99	122	144	114	140	165	98	121	142	107	131	154	115	141	166	123	151	179	140	172	203		
25	83	102	120	94	116	136	108	132	155	94	115	135	102	125	146	109	134	158	117	144	170	133	164	193		

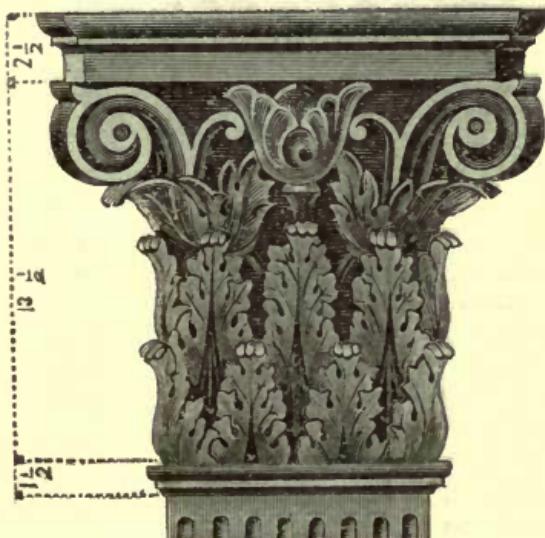
DEARBORN FOUNDRY COMPANY.



COLUMN CAPITALS.



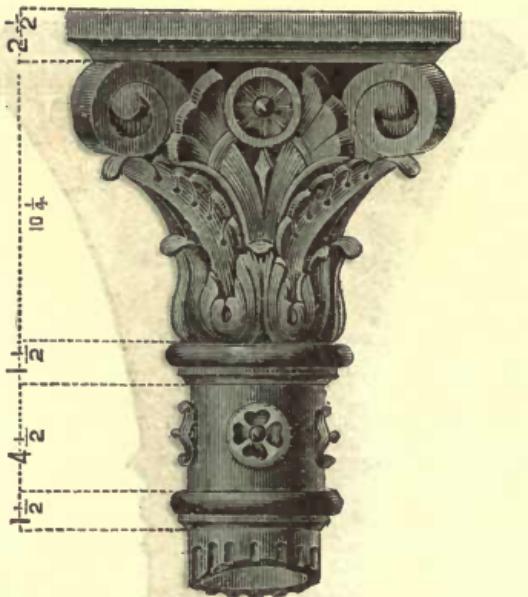
Cap of Column "V."
For 9 inch Diameter Column.



Cap of Pilaster "F."
For 6, 8, 10, 12, 14, 16, 20 and 24 inch Face Pilaster.

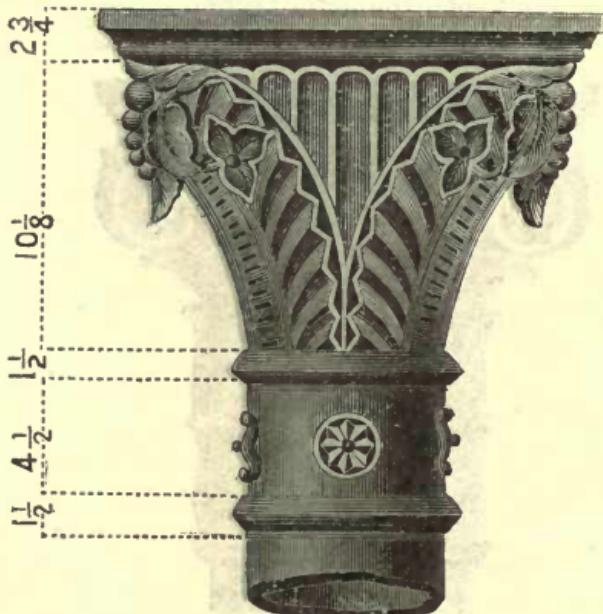
DEARBORN FOUNDRY COMPANY.

COLUMN CAPITALS.



Cap of Column "M."

For 5, 6, 8 and 12 inch Diameter Columns.



Cap of Column "T."

For 7 inch Diameter Column.

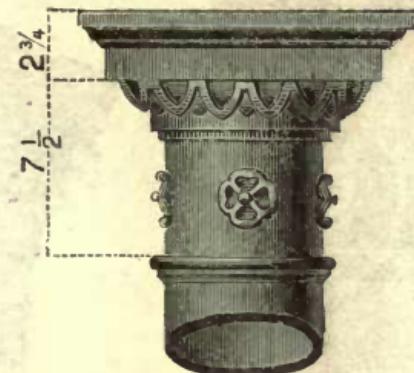
DEARBORN FOUNDRY COMPANY.

COLUMN CAPITALS.



Cap of Column "G."

For 5, 6, 7, 8, 9, 10, 11, 12, 14 and 16 inch Diameter Column.

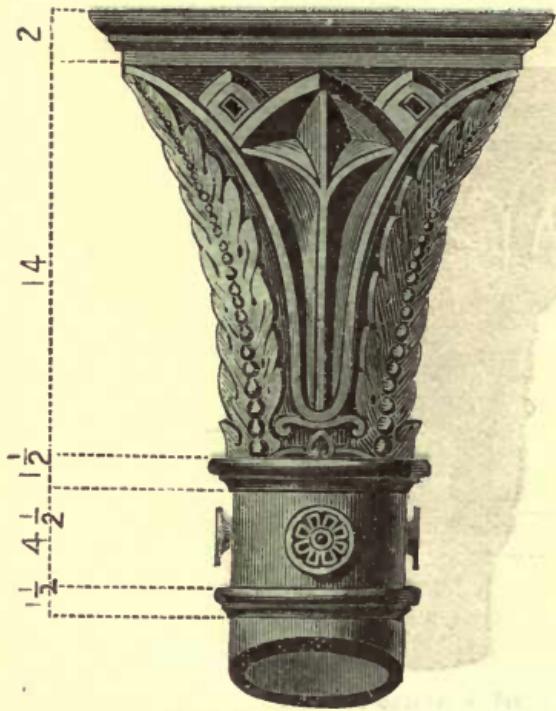


Cap of Column "S."

For 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 16 inch Diameter Column.

DEARBORN FOUNDRY COMPANY.

COLUMN CAPITALS.

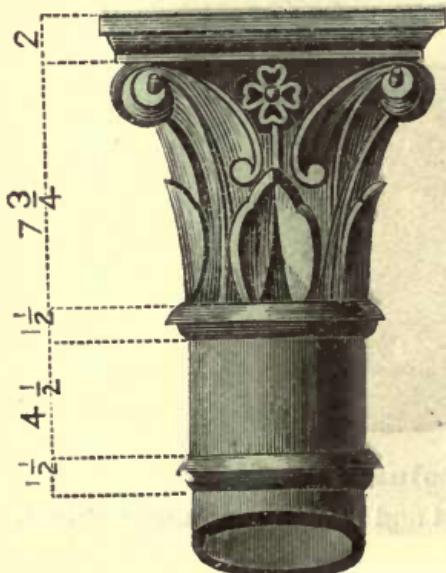


Cap of Column No. 50.
For 6 and 8 inch Diameter Column.



Cap No. 80.

For 5 and 8 inch Diameter.



Cap of Column "R."
For 6 inch Diameter Column.



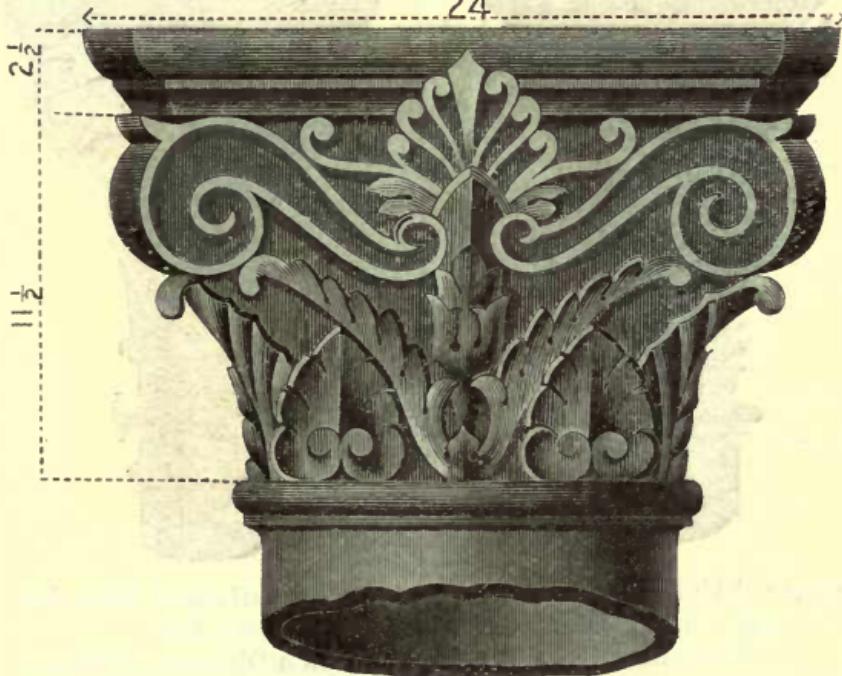
Cap No. 81.

For 17 inch Diameter.

DEARBORN FOUNDRY COMPANY.

COLUMN CAPITALS.

24



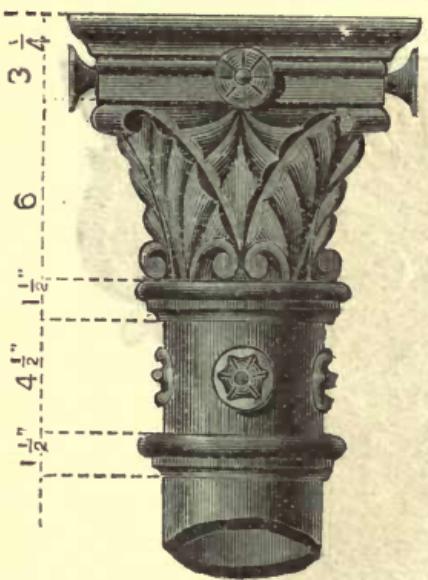
Cap of Column No. 63.
13 inch Diameter.



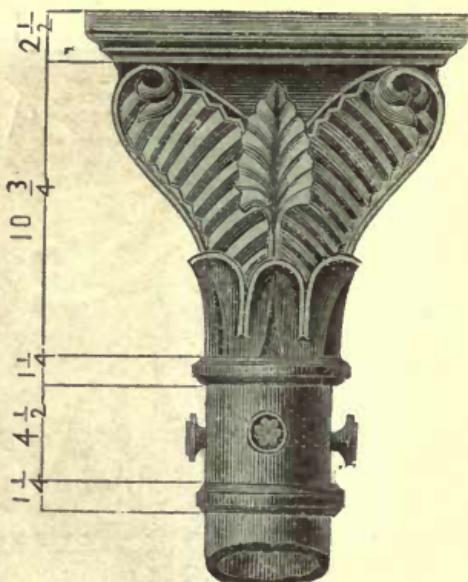
Cap of Column No. 60.
10 inch Diameter.

DEARBORN FOUNDRY COMPANY.

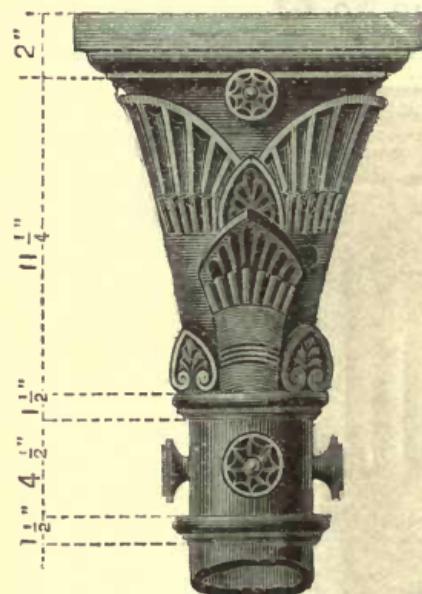
COLUMN CAPITALS.



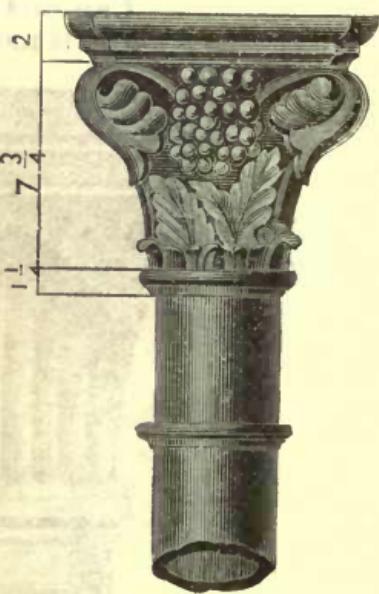
Cap of Column "J."
For 6 and 8 Inch Diameter
Columns.



**Cap of Column Nos. 34
and 35.**
For 5 Inch Diameter Column.



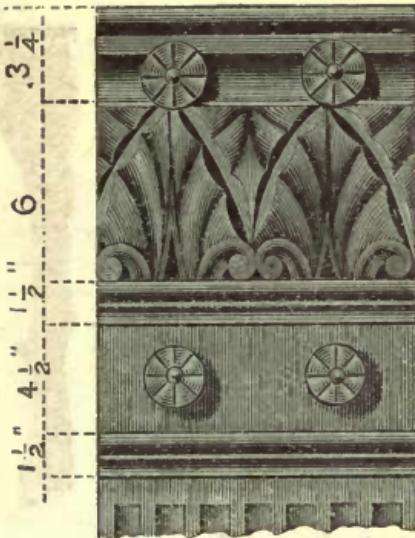
Cap of Column "E."
For 5, 6, 9 and 12 Inch Diameter
Columns.



**Cap of Column Nos. 32
and 33.**
For 5 and 6 Inch Diameter
Columns.

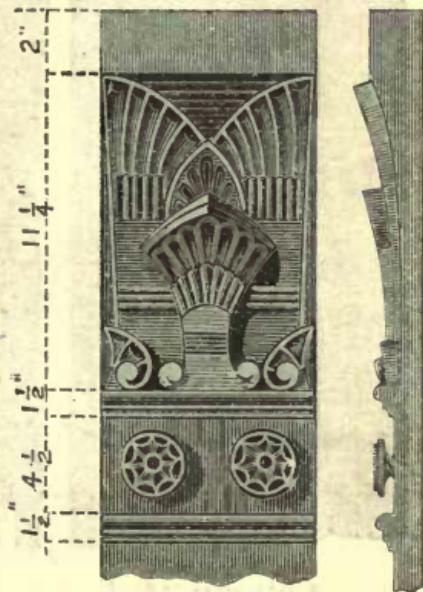
DEARBORN FOUNDRY COMPANY.

PILASTER AND COLUMN CAPITALS.



Cap of Pilaster "H."

For 6, 8, 12, 16 and 18 inch Face Pilaster.



Cap of Pilaster "C."

For 4, 5, 6, 8, 10, 12, 14 and 16 inch Face Pilaster.

DEARBORN FOUNDRY COMPANY.

PILASTER AND COLUMN CAPITALS.



Column No. 49.

12, 10, 8, 6 and 4 inch Face.

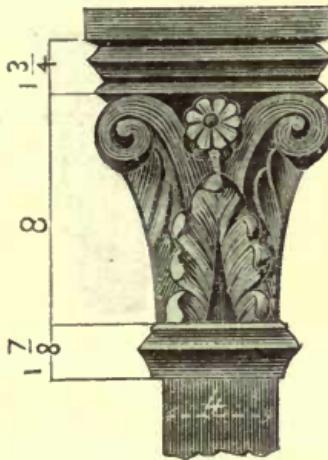


Column "C."

16, 14, 12, 10, 8, 6, 5 and 4 inch Face.

DEARBORN FOUNDRY COMPANY.

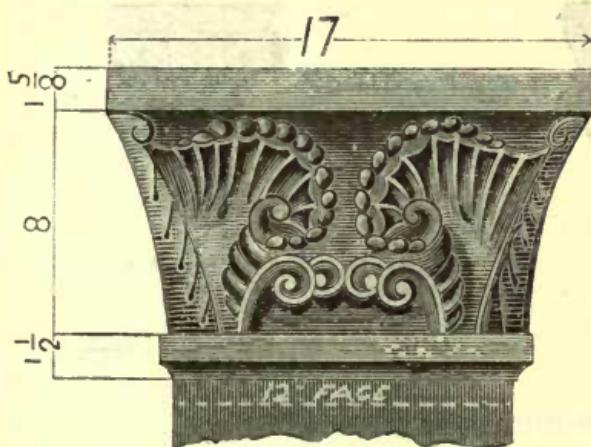
COLUMN CAPITALS.



Cap of Column No. 53.



Cap of Column No. 53.
For Gas Pipe.



Cap of Column No. 62.

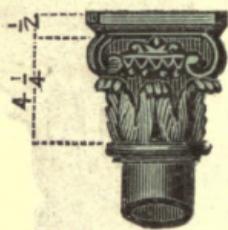


**Cap of Column
No. 36.**

4 inch diameter.

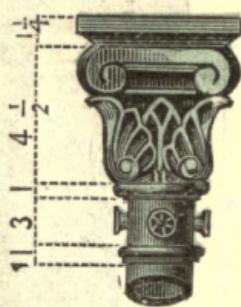
DEARBORN FOUNDRY COMPANY.

COLUMN CAPITALS.



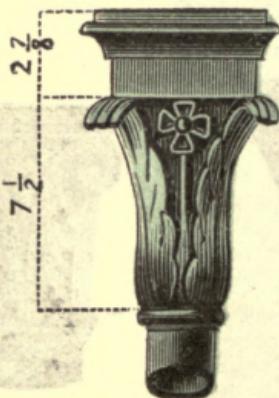
**Cap of Gas Pipe Column,
No. 49.**

For $2\frac{1}{2}$ in. Outside Diameter
Gas Pipe.



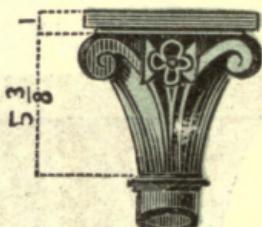
**Cap of Gas Pipe Column,
"L."**

For $2\frac{1}{2}$ and 3 in. Outside Diam-
eter Gas Pipe.



**Cap of Gas Pipe Column,
Nos. 40 and 41.**

For $2\frac{1}{2}$ and 3 in. Outside Diam-
eter Gas Pipe.

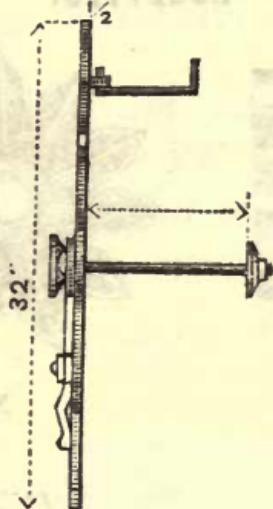
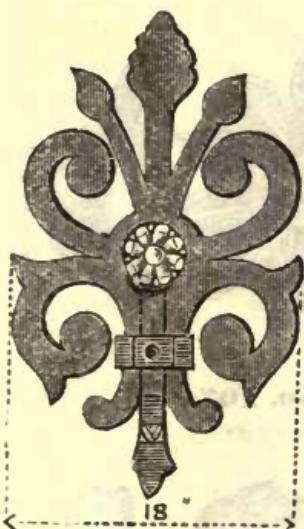


**Cap for Gas Pipe Column,
No. 51.**

For $2\frac{1}{2}$ in. Outside Diameter
Gas Pipe.

DEARBORN FOUNDRY COMPANY.

ORNAMENTAL ANCHORS.



No. 100.

Price, \$3.50 each.

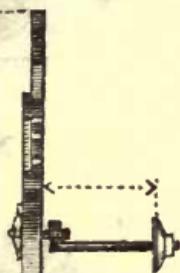
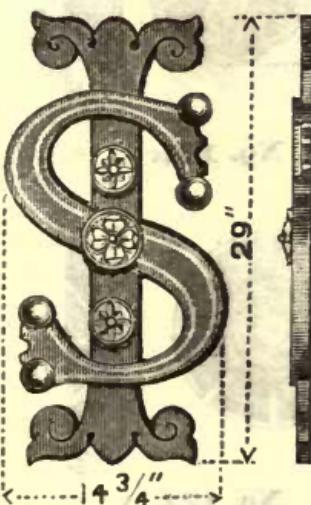
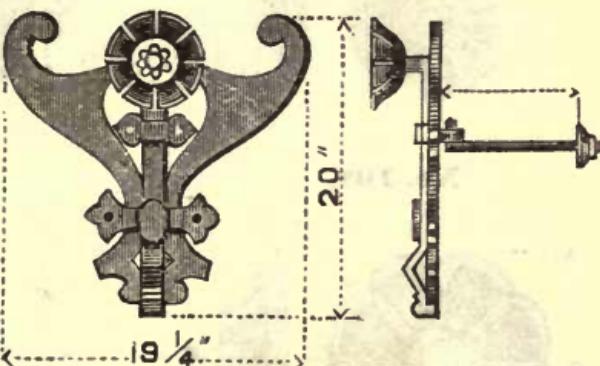
No. 100 A.

14" x 23" same design.

Price, \$3.00 each.

No. 101.

Price, \$2.50 each.



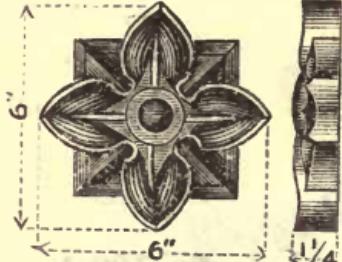
No. 102.

Price, \$3.50 each.

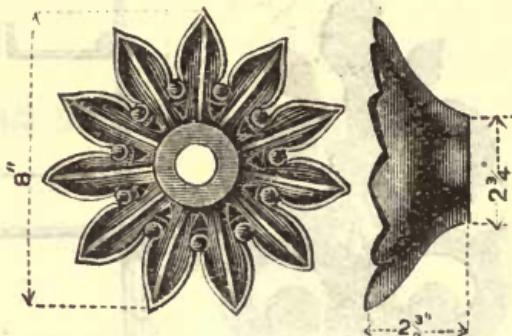
NOTE.—In ordering Ornamental Anchors give thickness of wall.

DEARBORN FOUNDRY COMPANY.

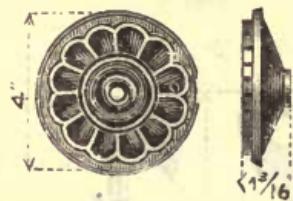
ROSETTES.



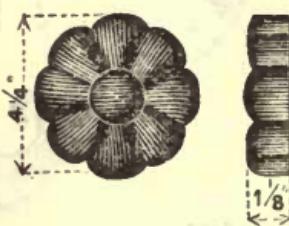
No. 106.



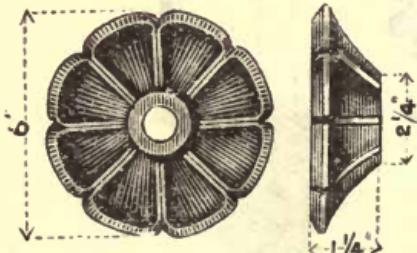
No. 107.



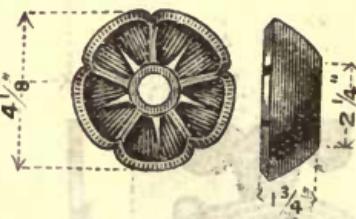
No. 108.



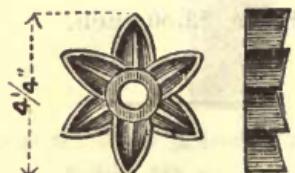
No. 109.



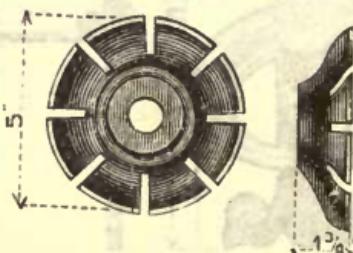
No. 115.



No. 121.



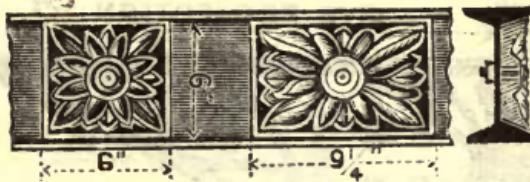
No. 122.



No. 124.

DEARBORN FOUNDRY COMPANY.

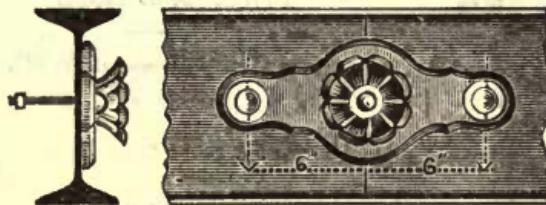
ROSETTES.



No. 104.

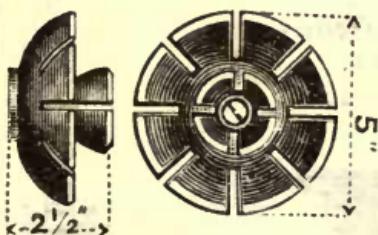
No. 103.

Rosettes for 7" Beams.

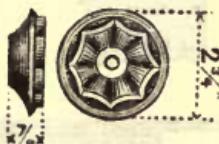


Splice Plate No. 105.

Ornamental Splice Plate for 15", 12" and 10" Beams.



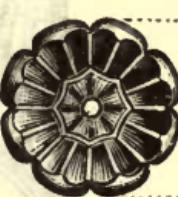
No. 126.



No. 123.



No. 118.



No. 116.

DEARBORN FOUNDRY COMPANY.

BRACKETS.



Wrought Iron Bracket.

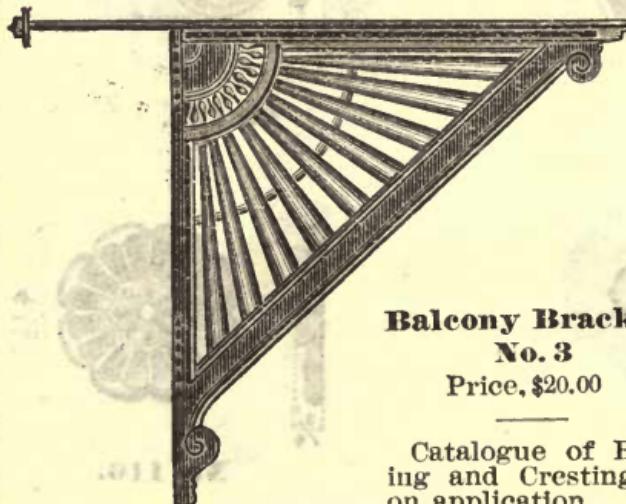
Price, \$10.00 each.

Give Thickness of Wall.



**Cast Iron Balcony
Bracket.**

Price, \$7.50 each.



Balcony Bracket.

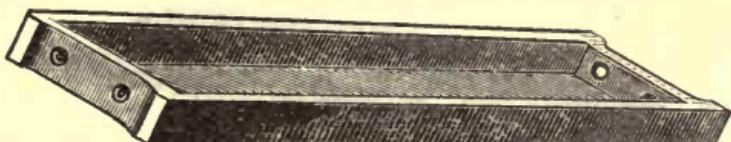
No. 3

Price, \$20.00

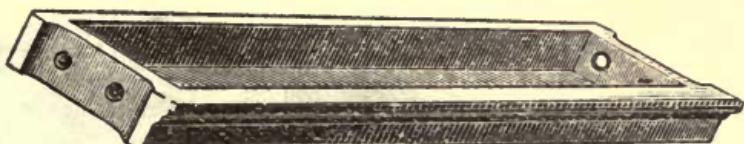
Catalogue of Brackets, Railings and Cresting will be sent on application.

DEARBORN FOUNDRY COMPANY.

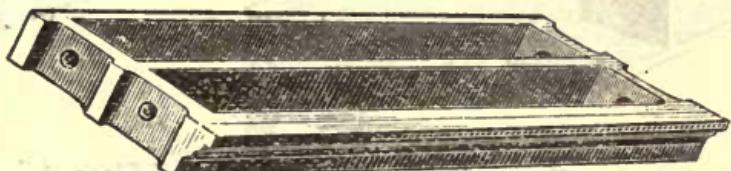
CAST IRON LINTELS.



Lintel for 12 and 16 inch Wall.



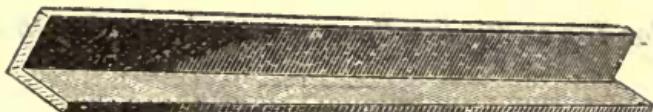
Lintel with Moulded Face for 12 and 16 inch Wall.



Lintel with Moulded Face for 20 and 24 inch Wall.



T Lintel.

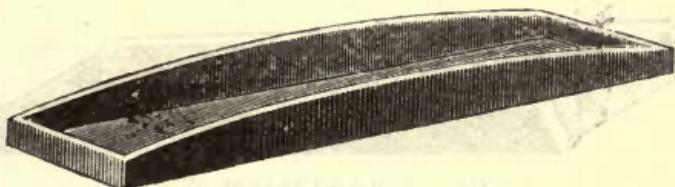


L Lintel.

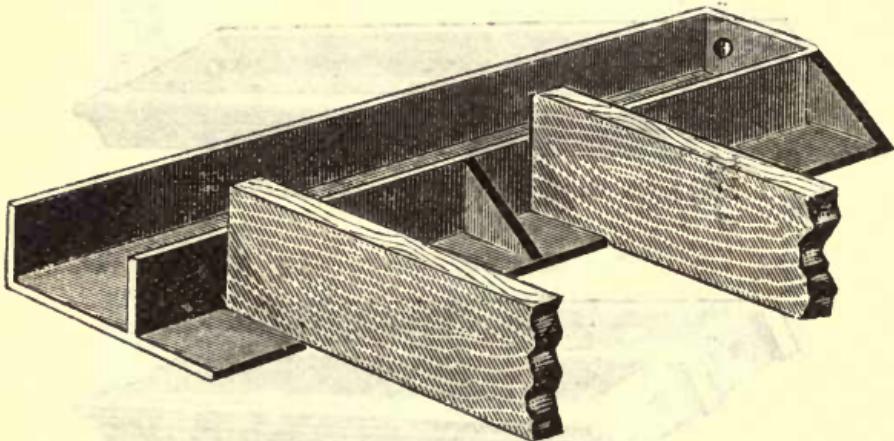
NOTE.—In ordering Lintels give width of same, also length and height of Ribs and thickness of metal.

DEARBORN FOUNDRY COMPANY.

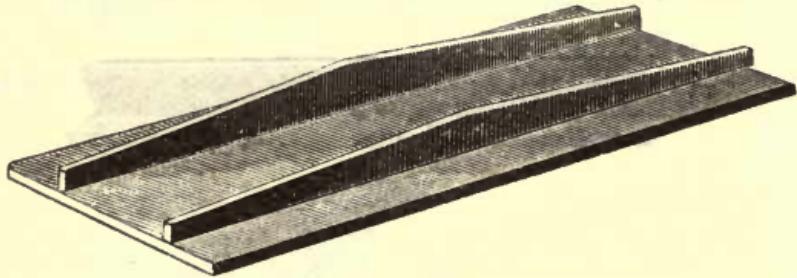
CAST IRON LINTELS.



Lintel with Segment Ribs.



Lintel with Flange for Supporting Ends of Floor Joists.



Lintels for Top of Window Openings, made any length or width.

In ordering Lintels give width of same, also give lengths and height of ribs and thickness of metal. In case Lintels return on side, state whether flange is to be cast on to support joist as shown in sketch above.

DEARBORN FOUNDRY COMPANY.

**THE FOLLOWING TABLE GIVES THE SAFE LOAD
EQUALLY DISTRIBUTED FOR CAST IRON LINTELS.**

In tons of 2,000 lbs. Factor of Safety 8.

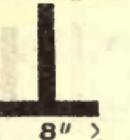
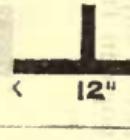
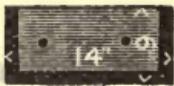
Distance between supports in ft.												
	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$
5	2.79	3.18	3.81	4.30	3.14	3.56	4.26	4.80	3.14	3.56	4.26	4.80
6	2.23	2.65	3.17	3.59	2.61	2.97	3.55	4.00	2.61	2.97	3.55	4.00
7	2.00	2.27	2.72	3.07	2.24	2.54	3.04	3.43	2.24	2.54	3.04	3.43
8	1.74	1.99	2.38	2.69	1.96	2.22	2.66	3.00	1.96	2.22	2.66	3.00
9	1.55	1.77	2.11	2.39	1.74	1.98	2.36	2.67	1.74	1.98	2.36	2.67
10	1.40	1.59	1.90	2.15	1.57	1.78	2.13	2.40	1.57	1.78	2.13	2.40
11	1.27	1.45	1.73	1.95	1.43	1.62	1.93	2.18	1.43	1.62	1.93	2.18
12	1.16	1.33	1.59	1.79	1.31	1.48	1.77	2.00	1.31	1.48	1.77	2.00
<hr/>												
Distance between supports in ft.												
	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$
5	3.48	3.93	4.69	5.28	3.96	4.52	5.50	6.29	3.96	4.52	5.50	6.29
6	2.90	3.27	3.91	4.40	3.30	3.77	4.58	5.24	3.30	3.77	4.58	5.24
7	2.49	2.81	3.35	3.77	2.83	3.23	3.93	4.49	2.83	3.23	3.93	4.49
8	2.18	2.46	2.93	3.30	2.47	2.83	3.44	3.93	2.47	2.83	3.44	3.93
9	1.94	2.18	2.60	2.93	2.20	2.51	3.05	3.49	2.20	2.51	3.05	3.49
10	1.74	1.96	2.34	2.64	1.98	2.26	2.75	3.14	1.98	2.26	2.75	3.14
11	1.58	1.79	2.13	2.40	1.80	2.05	2.50	2.86	1.80	2.05	2.50	2.86
12	1.45	1.64	1.95	2.20	1.65	1.88	2.29	2.62	1.65	1.88	2.29	2.62
<hr/>												
Distance between supports in ft.												
	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$
5	4.38	5.00	6.07	6.96	5.32	6.12	7.52	8.68	5.32	6.12	7.52	8.68
6	3.65	4.17	5.06	5.80	4.43	5.10	6.26	7.23	4.43	5.10	6.26	7.23
7	3.13	3.57	4.33	4.97	3.80	4.37	5.37	6.20	3.80	4.37	5.37	6.20
8	2.74	3.13	3.79	4.35	3.33	3.83	4.70	5.43	3.33	3.83	4.70	5.43
9	2.43	2.78	3.37	3.86	2.96	3.40	4.18	4.82	2.96	3.40	4.18	4.82
10	2.19	2.50	3.03	3.48	2.66	3.06	3.76	4.34	2.66	3.06	3.76	4.34
11	1.99	2.21	2.76	3.16	2.42	2.78	3.42	3.95	2.42	2.78	3.42	3.95
12	1.83	2.08	2.53	2.90	2.22	2.55	3.13	3.67	2.22	2.55	3.13	3.67

If the load comes in centre of lintel, ONLY ONE-HALF of these loads should be placed on the lintels. Allowed fibre strain per square inch 3000 lbs.

DEARBORN FOUNDRY COMPANY.

**THE FOLLOWING TABLE GIVES THE SAFE LOAD
EQUALLY DISTRIBUTED FOR CAST IRON LINTELS.**

In tons of 2,000 lbs. Factor of Safety 8.

Distance between supports in ft.																
	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$				
5	6.32	7.30	9.04	10.52	4.74	5.30	6.32	6.96	5.65	6.35	7.51	8.61				
6	5.26	6.08	7.54	8.77	3.95	4.41	5.27	5.80	4.71	5.29	6.26	7.18				
7	4.51	5.21	6.46	7.52	3.39	3.78	4.52	4.97	4.03	4.53	5.36	6.14				
8	3.95	4.56	5.65	6.58	2.96	3.31	3.85	4.35	3.53	3.97	4.69	5.38				
9	3.51	4.05	5.02	5.85	2.63	2.94	3.51	3.87	3.14	3.52	4.17	4.87				
10	3.16	3.65	4.52	5.26	2.37	2.65	3.16	3.48	2.82	3.17	3.76	4.30				
11	2.87	3.32	4.11	4.78	2.16	2.41	2.87	3.17	2.57	2.89	3.42	3.92				
12	2.63	3.04	3.77	4.39	1.98	2.21	2.63	2.90	2.35	2.64	3.13	3.59				
Distance between supports in ft.					LINTEL. 6" deep. 8" wide.								LINTEL. 6" deep. 12" wide.			
	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$
5	4.22	4.68	5.67	6.43	5.65	6.35	7.51	8.61	3.54	4.08	5.29	6.26	4.71	5.29	6.26	7.18
6	3.54	3.90	4.72	5.36	4.03	4.53	5.36	6.14	2.93	3.54	4.59	5.38	3.24	3.77	4.69	5.38
7	3.03	3.35	4.05	4.59	3.53	3.97	4.69	5.38	2.65	3.15	3.58	4.27	3.14	3.52	4.17	4.87
8	2.65	2.93	3.54	4.02	3.14	3.52	4.17	4.87	2.36	2.60	3.15	3.87	2.82	3.17	3.76	4.30
9	2.36	2.60	3.15	3.58	2.82	3.17	3.76	4.30	2.12	2.34	2.84	3.22	2.57	2.89	3.42	3.92
10	2.12	2.34	2.84	3.22	2.35	2.64	3.13	3.59	1.93	2.13	2.58	2.92	2.35	2.64	3.13	3.59
11	1.93	2.13	2.58	2.92	2.35	2.64	3.13	3.59	1.77	1.95	2.36	2.68	2.35	2.64	3.13	3.59
Distance between supports in ft.					LINTEL. 6" deep. 14" wide.								LINTEL. 6" deep. 16" wide.			
	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$
5	6.27	7.11	8.40	9.60	6.93	7.83	9.37	10.57	5.23	5.92	7.00	8.00	5.78	6.52	7.81	8.81
6	5.23	5.92	7.00	8.00	4.95	5.59	6.69	7.55	4.48	5.08	6.00	6.86	4.33	4.89	5.86	6.61
7	4.48	5.08	6.00	6.86	3.85	4.35	5.20	5.88	3.92	4.44	5.25	6.00	3.15	3.56	4.26	4.81
8	3.92	4.44	5.25	6.00	3.47	3.91	4.68	5.29	3.14	3.55	4.20	4.80	2.89	3.26	3.90	4.41
9	3.49	3.95	4.67	5.33	3.15	3.56	4.26	4.81	3.14	3.55	4.20	4.80	2.85	3.23	3.82	4.41
10	3.14	3.55	4.20	4.80	2.89	3.26	3.90	4.41	2.85	3.23	3.82	4.36	2.61	2.96	3.50	4.00
11	2.85	3.23	3.82	4.36	2.61	2.96	3.50	4.00	2.61	2.96	3.50	4.00	2.35	2.64	3.26	3.78
12	2.61	2.96	3.50	4.00	2.35	2.64	3.26	3.78	2.35	2.64	3.26	3.78	2.08	2.35	2.96	3.48

If the load comes in centre of lintel, ONLY ONE-HALF of these loads should be placed on the lintels. Allowed fibre strain per square inch 3000 lbs.

DEARBORN FOUNDRY COMPANY.

**THE FOLLOWING TABLE GIVES THE SAFE LOAD
EQUALLY DISTRIBUTED FOR CAST IRON LINTELS.**

In tons of 2,000 lbs. Factor of Safety 8.

Distance between supports in ft.	LINTEL. 8" deep. 12" wide.				LINTEL. 8" deep. 14" wide.			
	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$
5	8.59	9.90	12.17	13.98	9.65	11.09	13.63	15.76
6	7.16	8.25	10.15	11.65	8.04	9.24	11.35	13.13
7	6.14	7.07	8.70	9.99	6.89	7.92	9.73	11.26
8	5.37	6.19	7.61	8.74	6.03	6.93	8.52	9.85
9	4.77	5.50	6.76	7.77	5.36	6.16	7.57	8.76
10	4.30	4.95	6.09	6.99	4.82	5.54	6.81	7.88
11	3.91	4.50	5.53	6.35	4.39	5.04	6.19	7.16
12	3.58	4.13	5.07	5.82	4.02	4.62	5.68	6.57
Distance between supports in ft.	LINTEL. 8" deep. 16" wide.				LINTEL. 8" deep. 20" wide.			
	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$
5	10.66	12.29	14.93	17.36	12.65	14.52	17.75	19.81
6	8.83	10.24	12.44	14.47	10.54	12.10	14.80	16.51
7	7.62	8.78	10.66	12.40	9.03	10.37	12.68	14.15
8	6.66	7.68	9.33	10.85	7.90	9.08	11.10	12.38
9	5.92	6.83	8.29	9.65	7.03	8.07	9.86	11.00
10	5.33	6.14	7.46	8.68	6.32	7.26	8.88	9.90
11	4.85	5.59	6.78	7.89	5.75	6.60	8.07	9.00
12	4.44	5.12	6.22	7.24	5.27	6.05	7.40	8.25
Distance between supports in ft.	LINTEL. 6" deep 16" wide.				LINTEL. 8" deep. 16" wide.			
	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$1\frac{1}{2}''$	$\frac{3}{4}''$	1"	$1\frac{1}{4}''$	$1\frac{1}{2}''$
5	8.67	10.48	11.86	12.95	13.62	16.78	19.40	21.61
6	7.22	8.73	9.89	10.80	11.35	13.98	16.17	18.01
7	6.19	7.48	8.47	9.25	9.73	11.99	13.86	15.44
8	5.42	6.55	7.41	8.10	8.51	10.49	12.13	13.51
9	4.82	5.82	6.59	7.20	7.57	9.32	10.78	12.01
10	4.33	5.24	5.93	6.48	6.81	8.39	9.70	10.81
11	3.94	4.76	5.39	5.89	6.19	7.63	8.22	9.82
12	3.61	4.37	4.94	5.40	5.67	6.99	8.09	9.00

If the load comes in centre of lintel, ONLY ONE-HALF of these loads should be placed on the lintels. Allowed fibre strain per square inch, 3000 lbs.

DEARBORN FOUNDRY COMPANY.

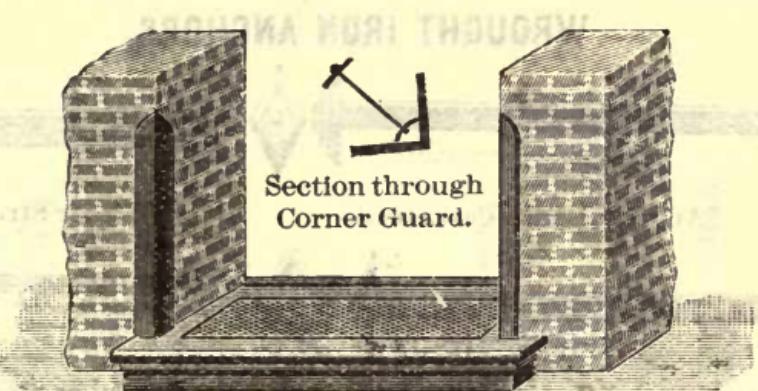
**THE FOLLOWING TABLE GIVES THE SAFE LOAD
EQUALLY DISTRIBUTED FOR CAST IRON LINTELS.**

In tons of 2,000 lbs. Factor of Safety 8.

Distance between supports in ft.	LINTEL. 8" deep. 20" wide.				LINTEL. 8" deep 24" wide			
	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "
5	16.13	19.74	22.77	25.36	18.38	22.56	26.04	28.94
6	13.36	16.45	18.98	21.14	15.32	18.80	21.70	24.12
7	11.45	14.10	16.29	18.12	13.13	16.11	18.60	20.67
8	10.02	12.34	14.23	15.85	11.49	14.10	16.27	18.09
9	8.91	10.97	12.65	14.09	10.21	12.53	14.47	16.08
10	8.02	9.87	11.39	12.68	9.19	11.28	13.02	14.47
11	7.29	8.97	10.35	11.53	8.35	10.25	11.84	13.15
12	6.68	8.22	9.49	10.57	7.66	9.40	10.85	12.06
Distance between supports in ft.	LINTEL. 10" deep. 20" wide.				LINTEL. 10" deep 24" wide			
	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "
5	22.40	27.94	32.69	37.01	25.56	31.90	36.72	42.09
6	18.66	23.28	27.24	30.84	21.30	26.58	30.60	35.07
7	16.00	19.96	23.35	26.44	18.30	22.97	26.23	30.06
8	14.00	17.46	20.43	23.13	15.98	19.94	22.95	26.30
9	12.44	15.52	18.18	20.56	14.20	17.72	20.40	23.38
10	11.20	13.97	16.35	18.51	12.78	15.95	18.36	21.04
11	10.18	12.70	14.86	16.82	11.62	14.50	16.69	19.13
12	9.50	11.64	13.62	15.42	10.65	13.29	15.30	17.54
Distance between supports in ft.	LINTEL. 12" deep. 20" wide.				LINTEL. 12" deep 24" wide			
	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "
5	29.35	36.96	43.76	49.79	33.32	41.85	49.53	56.63
6	24.46	30.80	36.46	41.49	27.77	34.88	41.28	47.19
7	20.96	26.40	31.25	35.56	23.80	29.90	35.38	40.45
8	18.34	23.10	27.35	31.12	20.83	26.16	30.96	35.39
9	16.31	20.53	24.31	27.66	18.51	23.25	27.52	31.46
10	14.67	18.48	21.88	24.89	16.66	20.93	24.77	28.31
11	13.34	16.80	19.89	22.63	15.15	19.02	22.51	25.74
12	12.23	15.40	18.23	20.75	13.89	17.44	20.64	23.60

If the load comes in centre of lintel, ONLY ONE-HALF of these loads should be placed on the lintels. Allowed fibre strain per square inch 3000 lbs.

DEARBORN FOUNDRY COMPANY.



View showing Corner Guards for protecting Brick Piers.
Made any length.



View showing thin Diamond Plates to screw to wood. Stair treads made any length or width desired.



Plain cast iron Window Sill. Give width
of opening.



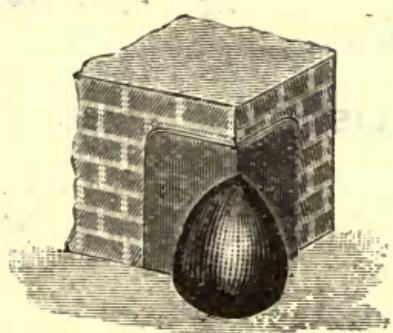
Section.



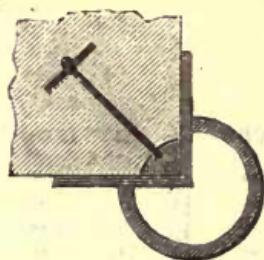
Ornamental cast iron Window Sill.
Give width of opening.



Section.



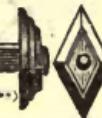
Wagon Wheel Guard.



Section.

DEARBORN FOUNDRY COMPANY.

WROUGHT IRON ANCHORS.



Anchor A with Cast Head.



Girder Strap.



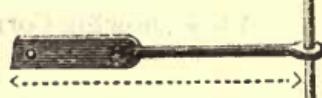
Anchor B with Cast Head.



Timber Strap.



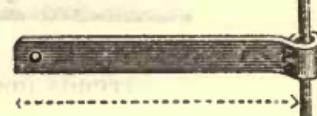
Anchor C with Cast Head.



Round T Anchor F.

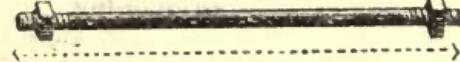


Anchor D.



Flat T Anchor G.

Flat T Anchor E.



Tie Rod for I Beams.



Vault Rods.

PRICE LIST.

Anchor A, any length.....

" B, " "

" C, " "

" D, " "

" E, " "

" F, " "

" G, " "

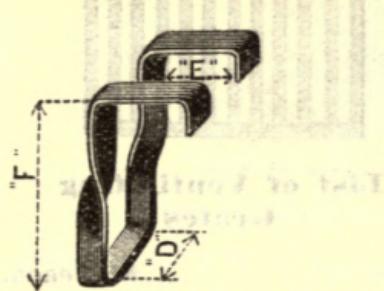
Tie Rod

Give size of Iron wanted for Anchors.

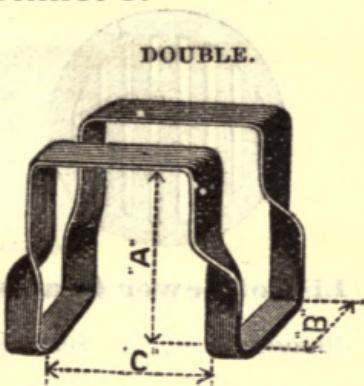
DEARBORN FOUNDRY COMPANY.

WROUGHT IRON STIRRUPS.

SINGLE.



DOUBLE.



Give measurements

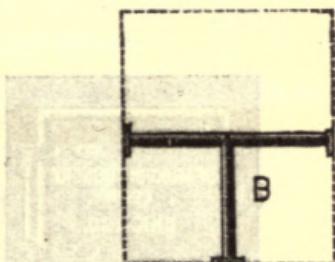
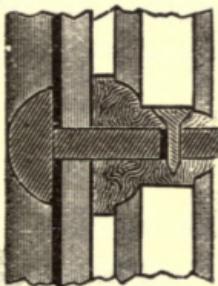
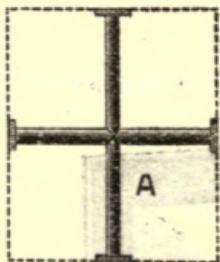
D, E and F.

Give measurements

A, B and C.

Also state size of Iron wanted.

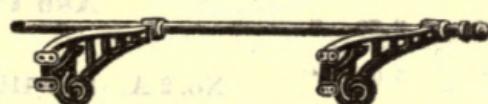
Wrought Iron Sash Bar.



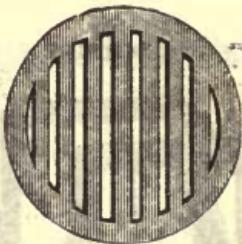
Price Wrought Iron..... 50c. per lineal foot.
Price Silver Plated..... \$1.00 " " "

In ordering make sketch and give size of Glass.

Counter Brackets and Railing.

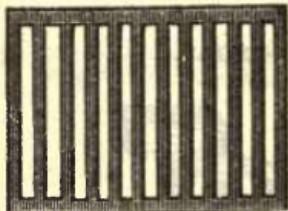


DEARBORN FOUNDRY COMPANY.



List of Sewer Grates.

5" diameter,	\$0.15 each.
6" " " . . . . .	.20 "
8" " " . . . . .	.25 "



List of Ventilating Grates

4" x 6"	\$0.15 each.
6" x 6" . . . . .	.20 "
6" x 8" . . . . .	.25 "
9" x 9" . . . . .	.30 "
9" x 12" . . . . .	.35 "
12" x 12" . . . . .	.40 "



Ash-Pit Doors.

10" high x 12" wide,	\$2.00 each.
12" " x 14" "	2.50 "
12" " x 16" "	3.00 "
15" " x 19" "	3.50 "
18" " x 24" "	5.00 "
14" " x 36" "	6.50 "

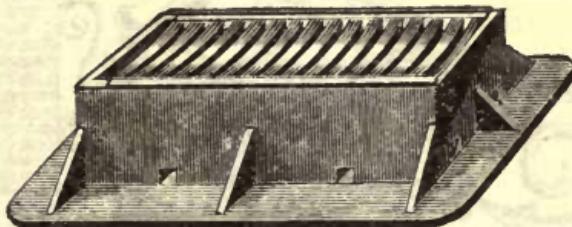


Ash Chute.

EACH.
No. 2 A. Size $11\frac{1}{2} \times 14\frac{1}{2}$ " . . . \$4.00
No. 2 B. Size $15\frac{1}{2} \times 17\frac{1}{4}$ " . . . 6.00

DEARBORN FOUNDRY COMPANY:

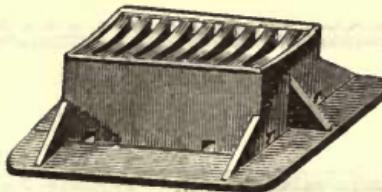
SEWER GRATE, FRAME AND HOPPER.



For Drainage of Street Gutters into Sewer.

Opening 12" x 24" Price each, \$10.50

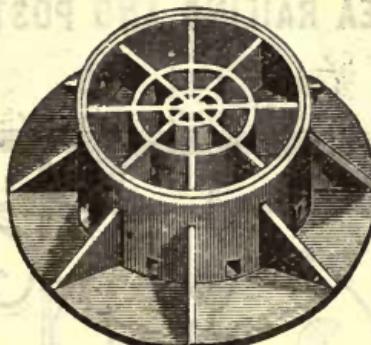
PARK GRATE, FRAME AND HOPPER.



For Drainage of Pathways into Sewer.

Opening 8" x 12" Price each, \$4.00

MAN-HOLE COVER AND FRAME.



For Entrance in Cleaning Sewers.

Opening 24" diameter Price each, \$13.50

Write for Discount on large orders.

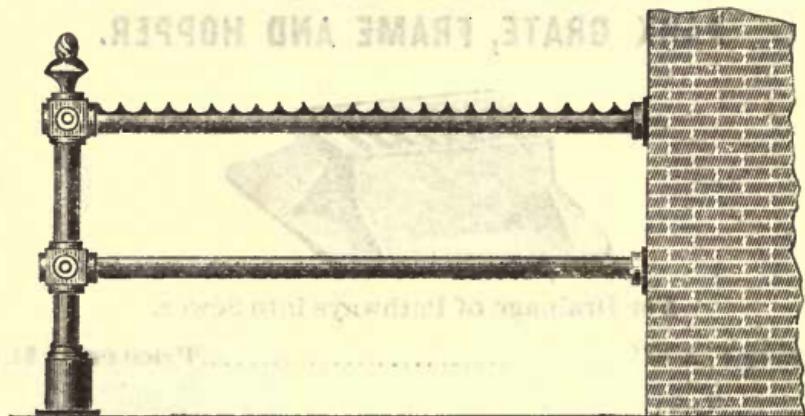
DEARBORN FOUNDRY COMPANY.

CAST IRON AREA GUARD.



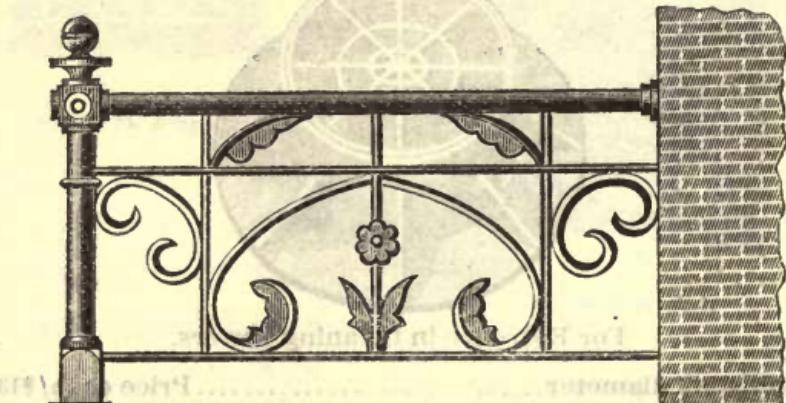
Price \$12 00 Each.

GAS PIPE AREA RAILING AND POST.



Price \$10 00 for 4', 0" Area.

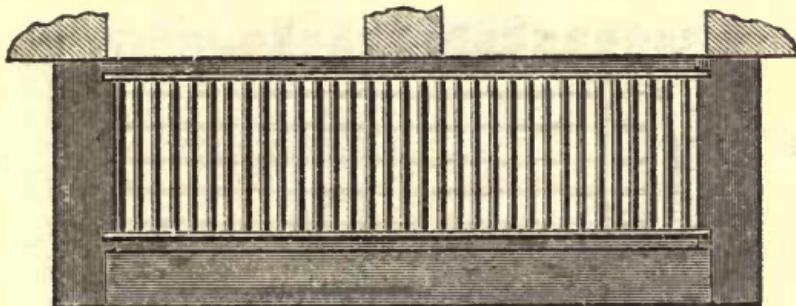
AREA RAILING AND POST.



Price \$16 00 for 4', 0" Area.

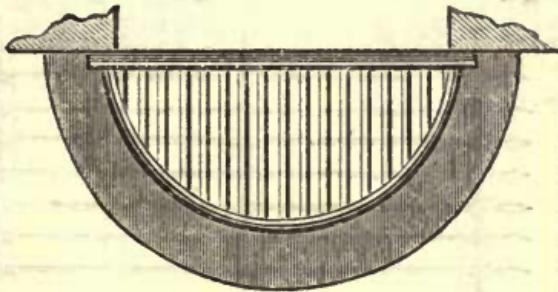
DEARBORN FOUNDRY COMPANY.

RECTANGULAR WROUGHT IRON AREA GRATING.



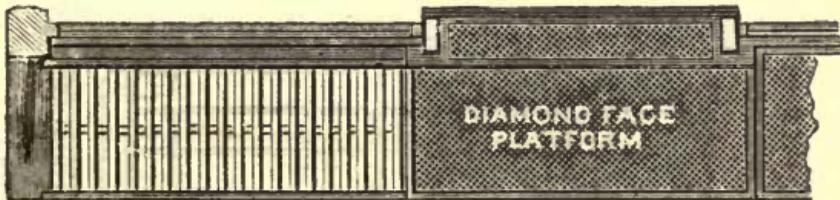
Price per square foot..... \$1.50.

HALF CIRCLE WROUGHT IRON GRATING.



Price, per square foot..... \$.....

WROUGHT IRON AREA GRATINGS FOR PLATFORMS.



Price, per square foot..... \$.....

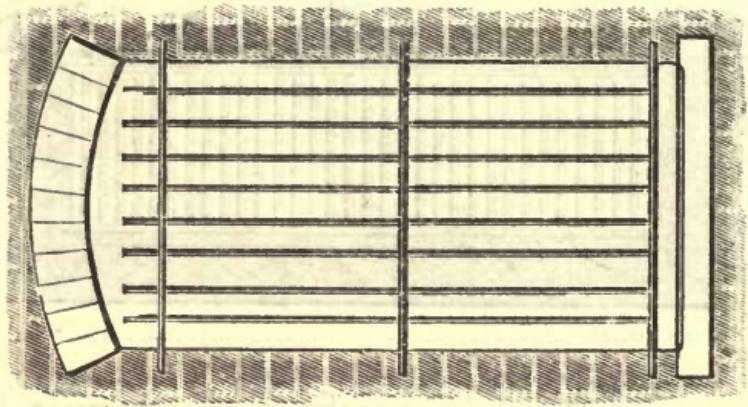
Diamond plates extra.

NOTE.—In ordering, parties will state what size iron they wish to be used, also state size of opening for which they are intended, whether they are to be fastened to wood or stone.

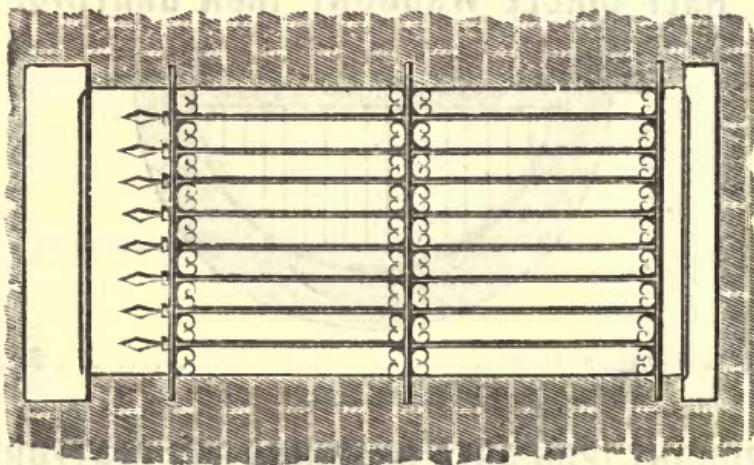
Special estimates given on this class of work promptly, on application.

DEARBORN FOUNDRY COMPANY.

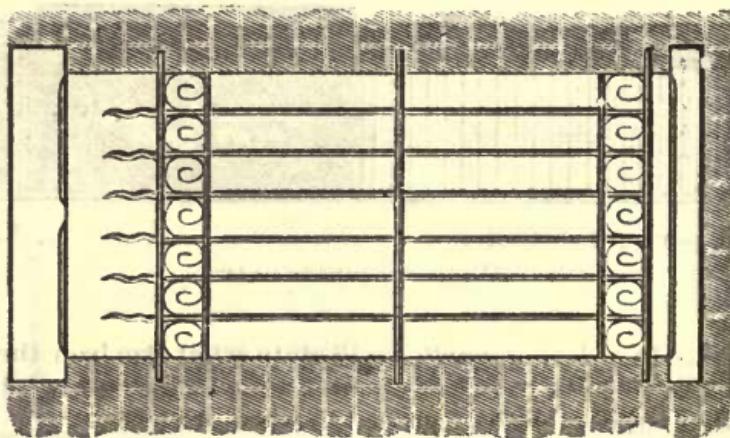
WROUGHT IRON WINDOW GUARDS



Price per square foot,



Price per square foot,

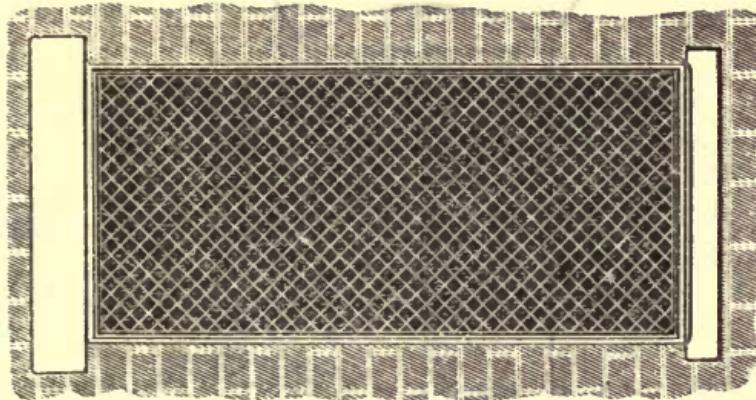


Price per square foot,

Estimates will be given on any style parties desire, if they will furnish drawings.

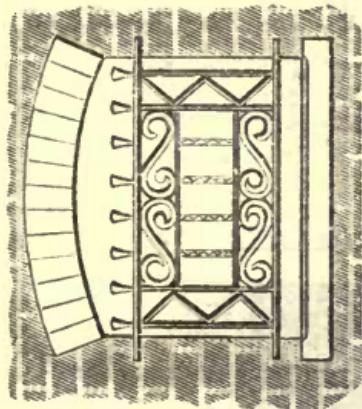
DEARBORN FOUNDRY COMPANY.

WROUGHT IRON WINDOW GUARDS.

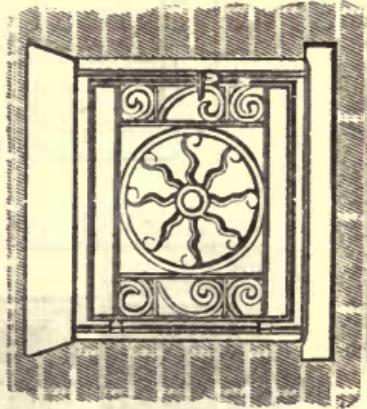


Wire Guards.

Price per square foot,

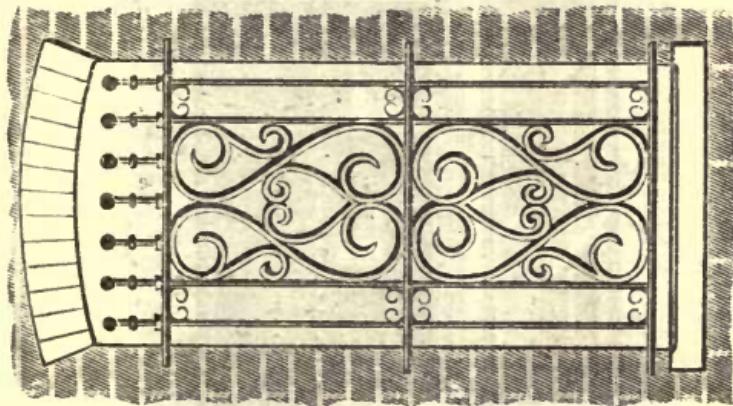


Price Per square foot,



Price per square foot,

Padlock, \$..... extra.

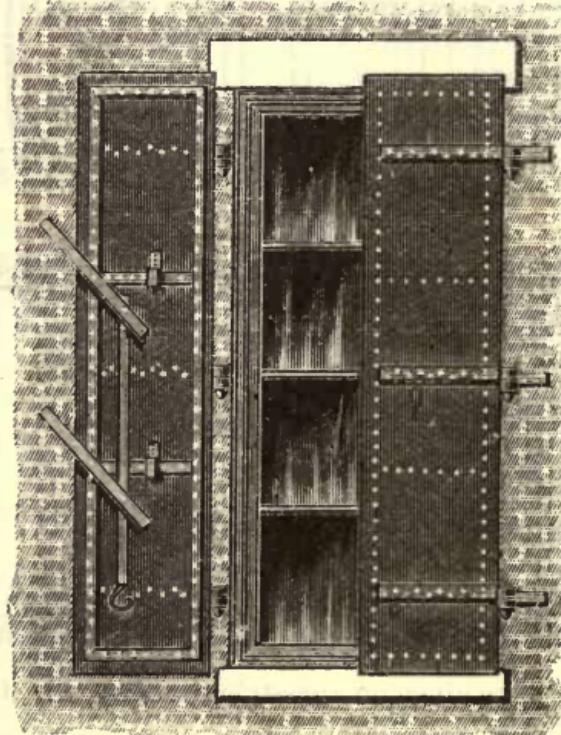
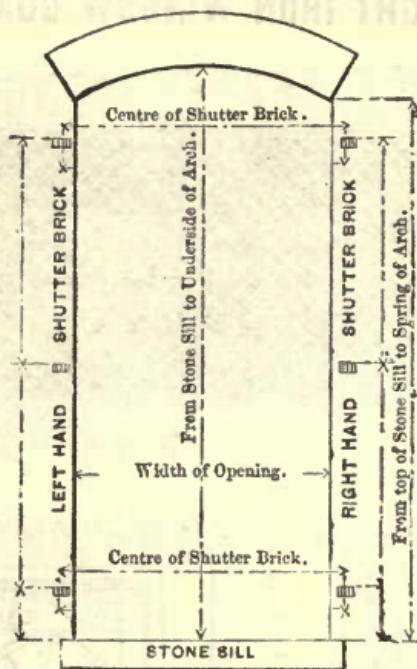


Price per square foot,

Estimates will be given on any style parties desire, if they will furnish drawings.

DEARBORN FOUNDRY COMPANY.

WROUGHT IRON SHUTTERS.

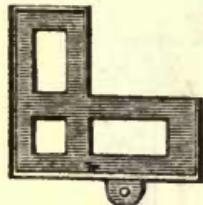


DEARBORN FOUNDRY COMPANY.

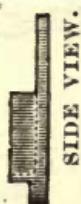
SEE SKETCH SHOWING FIRE-PROOF SHUTTERS.

Shutters are usually made of $\frac{3}{2} \times 1\frac{1}{2}$ wrought iron frames, and covered with No. 14 sheet iron, well riveted to frames. Shutters may be made to open from outside; these are mostly used above first story, so that the firemen can open them in case of fire. Shutters for door openings are usually provided with locks and sliding-bolts, top and bottom. In ordering please state if you wish same to be furnished.

In ordering Shutters give measurements as shown in the sketch, viz.: From top of sill to underside of arch; from top of sill to spring of arch; and width of opening, and if shutter-brick are already built in wall, then give height of same from top of sill to top of shutter-brick, also from centre to centre of eye in shutter-brick, as shown in sketch on opposite page.



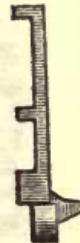
TOP VIEW.



SIDE VIEW.



TOP VIEW.



SIDE VIEW.

Cast Iron Shutter Brick
Style A.

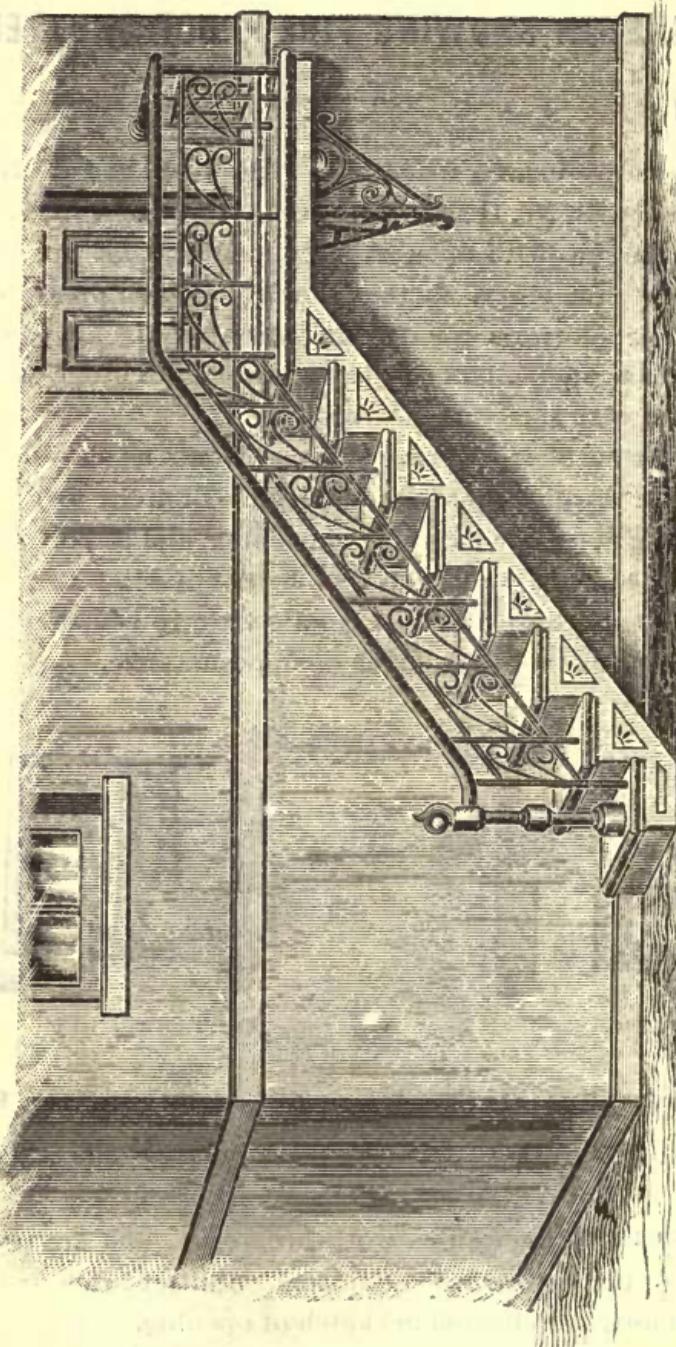
Cast Iron Shutter Brick
Style B.

To build in brick wall as work progresses, and are used for hanging either iron or wood shutters. Shutter-brick are made right and left, as indicated in sketch of opening.

Estimates given on application promptly.

DEARBORN FOUNDRY COMPANY.

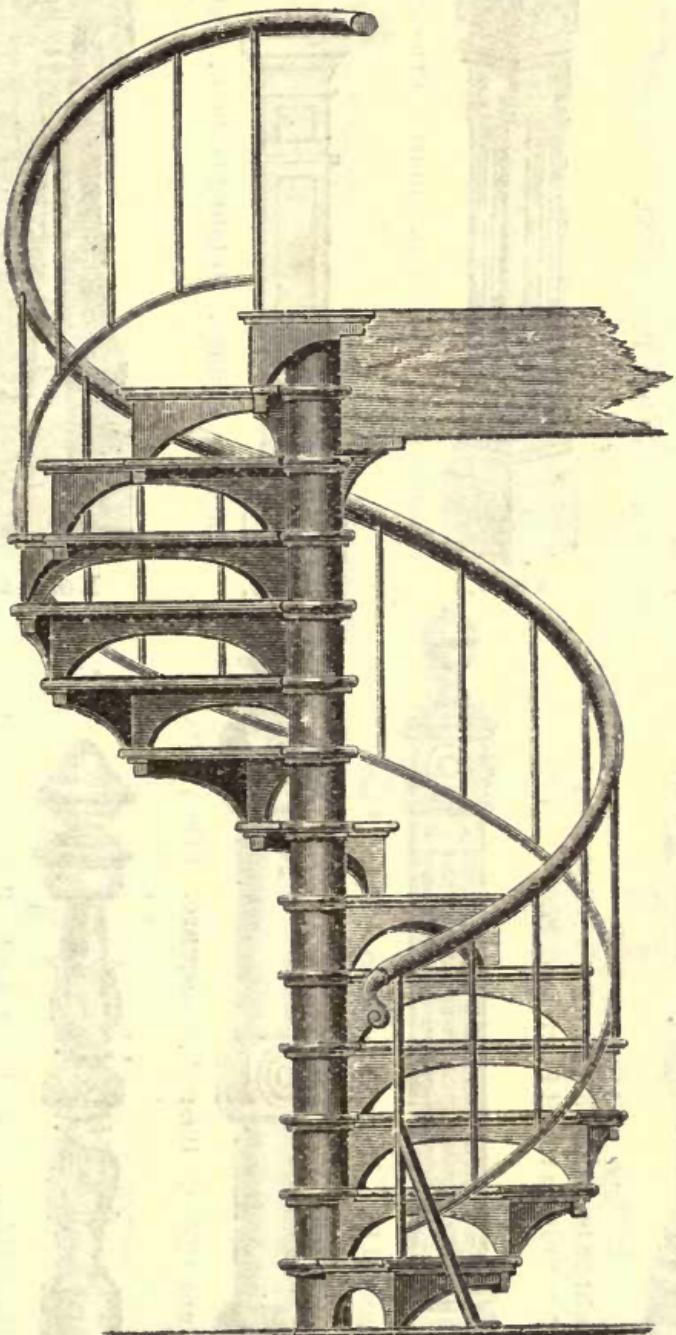
OUTSIDE STAIRS.



Estimates given promptly on application.

DEARBORN FOUNDRY COMPANY.

CIRCULAR STAIRS.



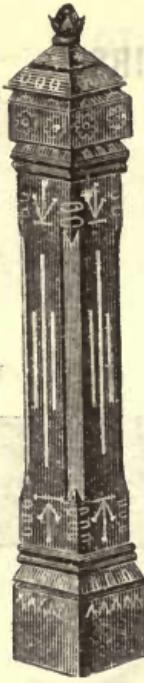
Estimates given promptly on application.

DEARBORN FOUNDRY COMPANY.



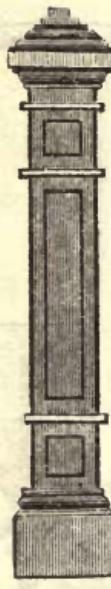
No. 8.

Height 30 in. Price, \$5.50.



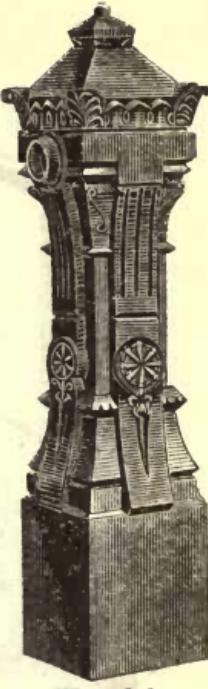
No. 9.

Height 38 in. Base $5\frac{1}{4}$ in. Price, \$6.00. With
Sub-Base to set in ground, \$7.50



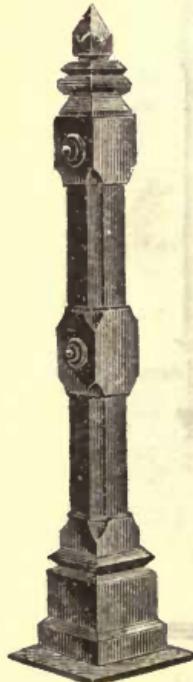
No. 22.

Height 40 in. Base 7 in. square. Price, \$10.00.



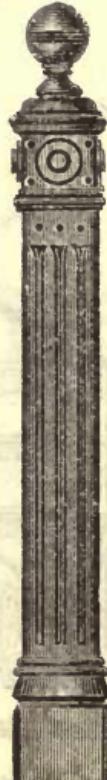
No. 24.

Height 44 in. Base 5 in. square. Price, \$6.50.



No. 25.

Height 44 in. Base $4\frac{1}{2}$ in. square. Price, \$5.00.



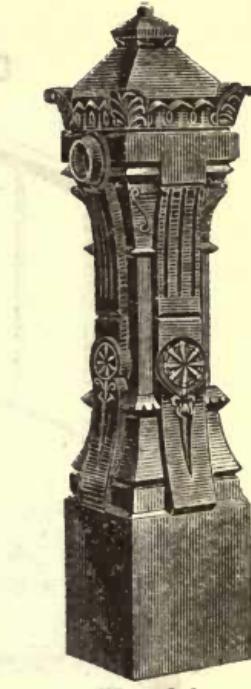
No. 31.

Height 43 $\frac{1}{2}$ in. Base $4\frac{1}{2}$ in. square. Price, \$5.00.



No. 32.

Height 35 $\frac{1}{2}$ in. Base 4 in. round. Price, \$4.50



No. 33.

Height 40 in. Base 8 in. square. Price, \$10.00.

Special Catalogue of Posts will be sent on application.

DEARBORN FOUNDRY COMPANY.

CAST IRON POSTS AND STANDARDS.



No. 34.—Price, \$3.25
36 in. High;
Base, 3 in. Round.



No. 35.—Price, \$3.25



No. 28.—Price, \$7.50
40 in. High;
Base, 7 in.

PIPE RAIL BRACKET POSTS.



No. 36.—Price, \$2.50
24 $\frac{1}{4}$ in. High.



No. 37.—Price, \$2.50
24 $\frac{1}{4}$ in. High.

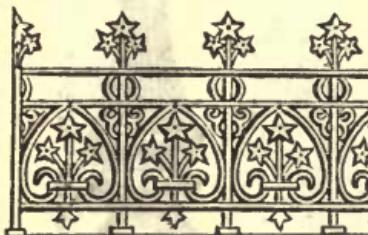
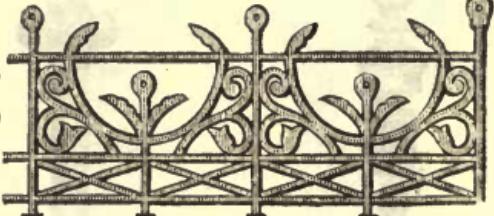
Special Catalogue of Posts and Railings will be sent on application. Estimates given promptly.

DEARBORN FOUNDRY COMPANY.

ROOF CRESTING.

No. 46.—One Size Only.

18" high, per lineal foot, \$1.00
Finial for same, \$2.00 each.

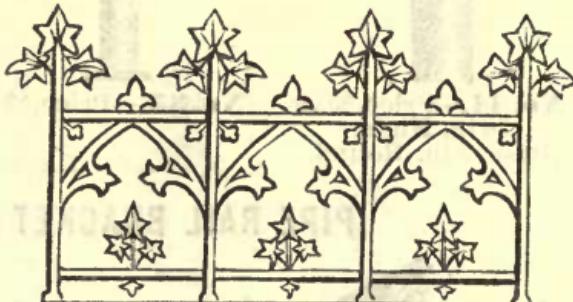


No. 30.—Five Sizes.

15"	high, per lineal foot	... \$.50
24 "	" " "	... 1.10
36 "	" " "	... 1.35
42 "	" " "	... 1.65
54 "	" " "	... 2.00

No. 38—Three Sizes.

18" high, per lineal ft. \$.50
26" " " " " .85
35" " " " " 1.20



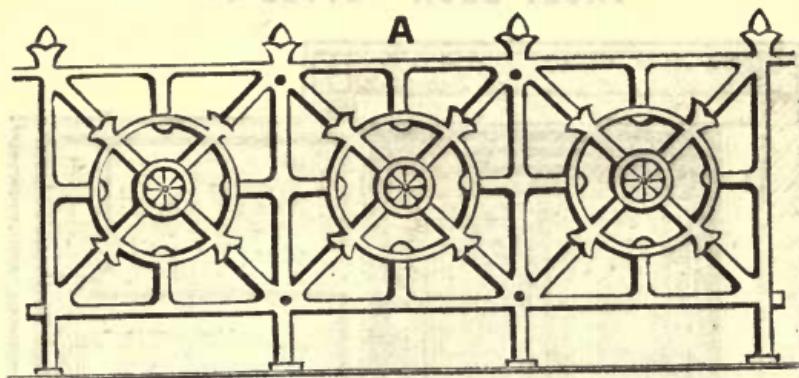
No. 2.—Two Sizes.

22" high, per lineal foot, 65c.
28" high, per lineal foot, 85c.

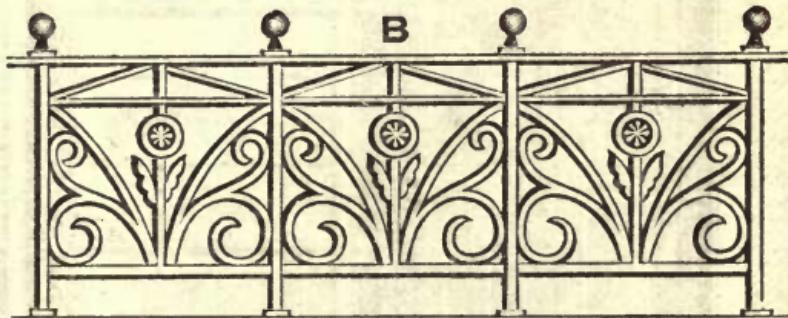
Special Cresting Catalogue will be sent on application.
Estimates given promptly.

DEARBORN FOUNDRY COMPANY.

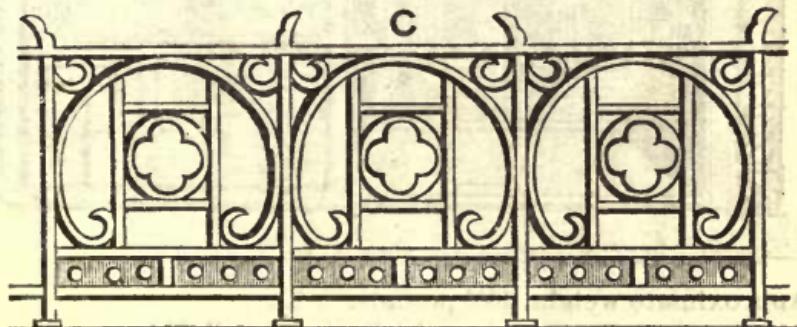
RAILINGS.



Price per foot.....\$.....



Price per foot.....\$.....

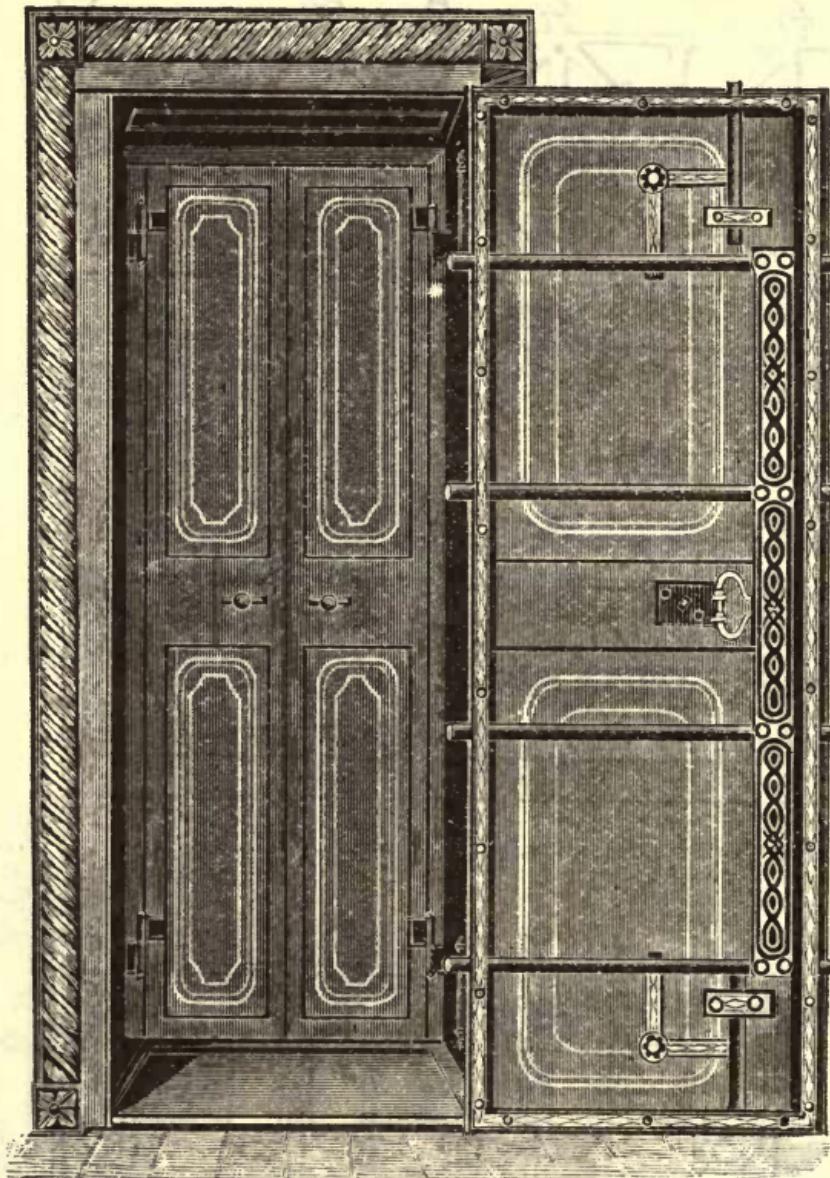


Price per foot.....\$.....

NOTE.—Special Catalogue of Railing and Cresting sent on application. Estimates given promptly.

DEARBORN FOUNDRY COMPANY.

VAULT DOOR "STYLE T."



Approximate weight, 1000 pounds.

Opening in wall, 81 x 34 in.; thickness of wall, 24 in.

Clear opening in door, 78 x 30 in.

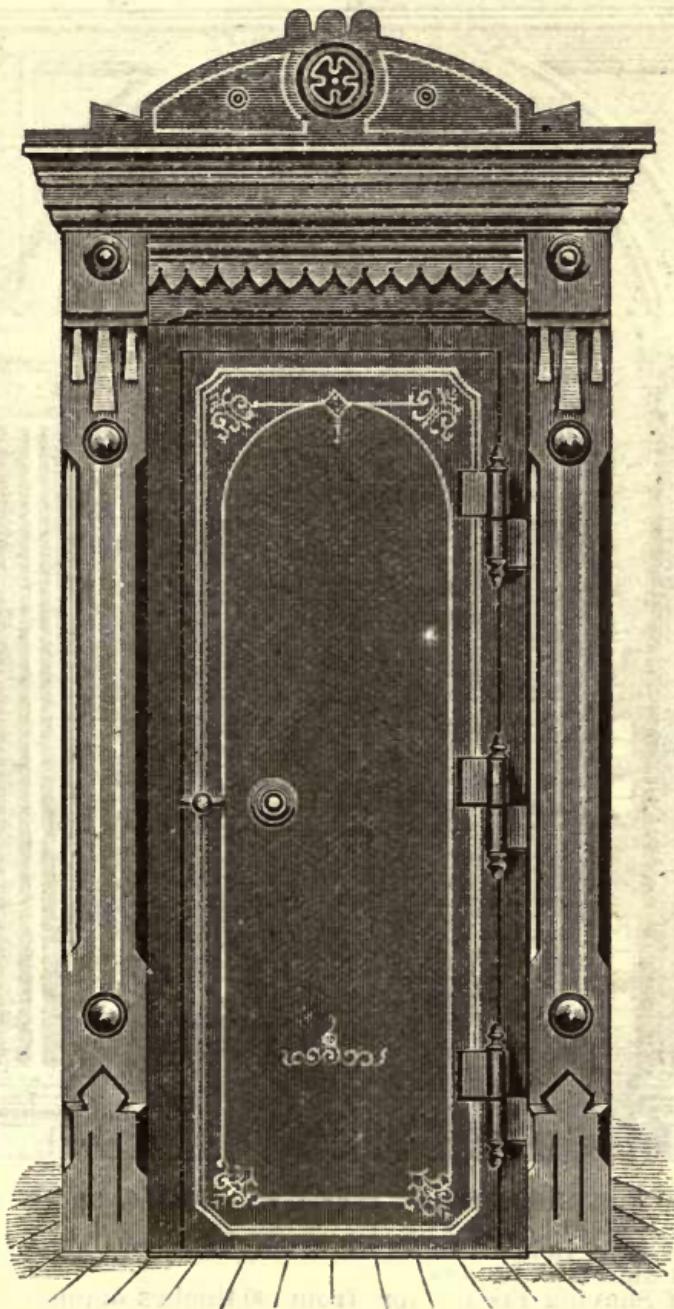
Outside dimensions over all, 82 x 39 in.

Estimates given promptly.

DEARBORN FOUNDRY COMPANY.

VAULT DOOR, "STYLE U, EASTLAKE."

Bolt Work same as "Style U, Cottage."



Approximate Weight, 1200 pounds; opening in wall, 81×34 in.; thickness of wall, 24 in.

Clear opening in door, 78×30 in.; outside dimensions over all, 107×56 in.

Estimates given promptly.

DEARBORN FOUNDRY COMPANY

BOILER FRONT.



Sizes of Full Boiler Fronts for 36, 42, 48, 54, 60 and 66 inches diameter Boilers.

Sizes of Half Boiler Fronts for from 30 inches diameter to 66 inches diameter Boilers.

Sizes of Shaving Fronts for from 30 inches diameter to 66 inches diameter.

Estimates furnished on application.

DEARBORN FOUNDRY COMPANY.

GRATE BARS.



We have the following sizes of Grate Bars:

Length, 2'-0"
" 2'-6"
" 3'-0"

Length, 4'-0"
" 4'-6"
" 5'-0"

Length, 5'-6"
" 6'-0"

We also carry in Stock a large amount of Boiler Fronts and Furnace Castings, namely: Bearing bars, angle bars, top liners, side liners, man-hole rings and plates, hand-hole rings and crabs, boiler lugs and nozzles, skeleton arches, wall binders and rods, large and small soot doors and frames. We also have a large variety of Grate Bars used for different kinds of Fuel, as well as those shown above. Parties wishing to get figures on this class of work, if they will state just what they require, we shall be pleased to quote prices promptly.

We also make Rubbing Beds for stone yards, Castings used in Packing Houses, Sugar Refineries, etc., and in fact anything in the foundry line, which we have every facility for getting out heavy or light castings in short order.

Estimates will be given on any of this work promptly.

DEARBORN FOUNDRY COMPANY.

COAL HOLE LIGHTS.

PRICE LIST.

16 in. diameter, 6 glasses.....	\$2.50
18 in. " 9 "	3.00
20 in. " 12 "	3.50
24 in. " 12 "	5.00
Fastening Bar and Thumb Screw extra.....	.50

Thimbles for Round Vaults made to order.

Cut of 20 in. Coal Hole Light.

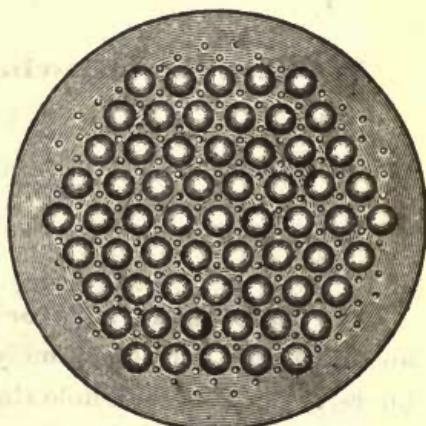
ROUND VAULT LIGHTS.

20 in. round, 30 glasses

PRICE LIST.

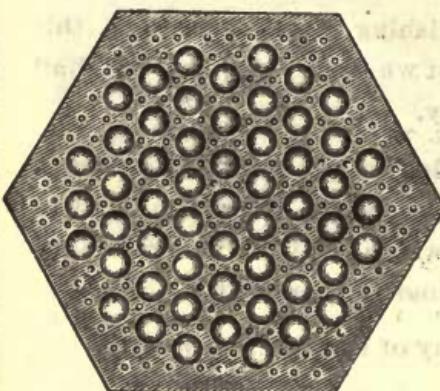
16 in. diam., round, 30 glasses...	\$3.50
18 in. " " 36 " ...	5.00
21 in. " " 54 " ...	6.50
23 in. " " 60 " ...	8.00

The above sizes always on hand.



Cut of 23 in. Round Vault Light.

HEXAGON VAULT LIGHTS.



Cut of 21 in. Hexagon Vault Light.

PRICE LIST.

18 in. Hexagon, 43 glasses....	\$5.00
21 in. " 55 " ...	8.00
25 in. " 91 " ...	11.00
29 in. " 133 " ...	15.00

Thimbles or Rings for Hexagon Covers made to order.

DEARBORN FOUNDRY COMPANY.

RINGS FOR COAL HOLE COVERS AND VAULT LIGHTS.



PRICE LIST.

Ring for 16 inch Coal Hole Cover.....	\$1.00
" " 18 " " "	1.25
" " 20 " " "	1.50
" " 24 " " "	2.50
Ring for 16 inch round Vault Light.....	\$1.50
" " 18 " " "	2.00
" " 21 " " "	2.50
" " 23 " " "	3.00

Above Rings kept in stock.

THIMBLES FOR COAL HOLE COVERS, VAULT
LIGHTS, ETC.



PRICE LIST.

Thimble for 16 inch Coal Hole Cover.....	\$1.50
" " 18 " " "	2.00
" " 20 " " "	2.50

Above Thimbles are 4 inches deep.

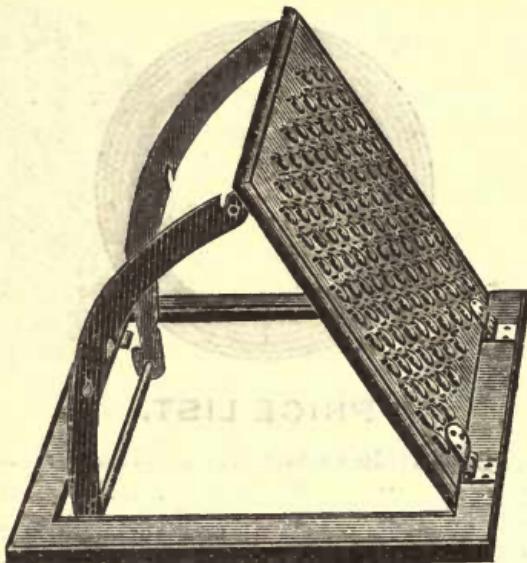
Kept in stock.

Made to Order at Short Notice.

Deeper Thimbles to go through brick arches, cistern tops, &c.
Price according to size and depth.

DEARBORN FOUNDRY COMPANY.

VENTILATING DOORS.



Cut Showing Construction of Ventilating Door.

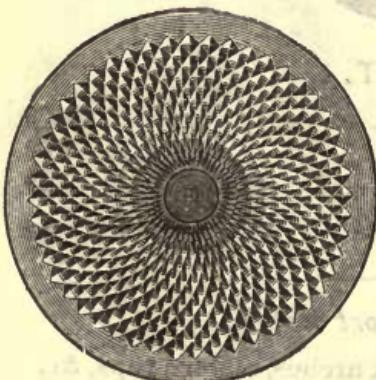
PRICE LIST.

Small Ventilating Door, 22 inches square, 16 inch square opening, 37 glasses	\$12.00
Medium Ventilating Door, 26 inches square, 20 inch square opening, 63 glasses.....	\$16.00
Large Ventilating Door, 30 inches square, 24 inch square opening, 103 glasses.....	\$20.00
These doors are self-locking and water tight when closed, and protect the hole when open.	

Above sizes kept in stock.

SOLID IRON COAL HOLE COVERS.

PRICE LIST.



Cut of 20 inch Solid Cover.

16 inch diameter.....	\$1.50
18 " "	2.00
20 " "	2.50
24 " "	4.00

Fastening bar and thumb screw,
extra..... .50
For Rings for solid covers, see
page 97.

Above sizes always on hand.

Estimates given promptly on Prismatic light work for platforms or other construction, if parties will send drawing of what they require.

DEARBORN FOUNDRY COMPANY.

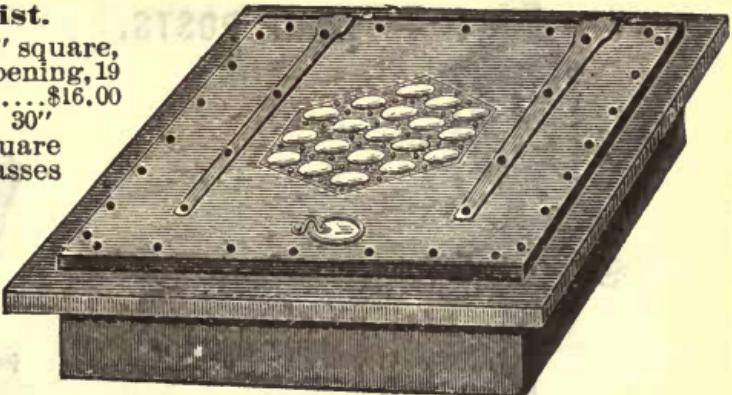
WROUGHT IRON COAL HOLE DOOR.

Price List.

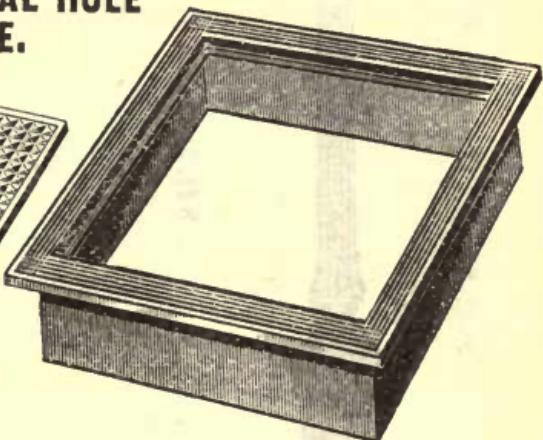
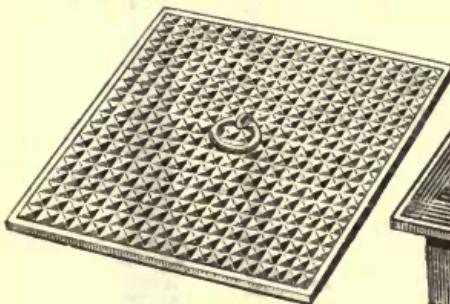
Small Door, 26" square, 20" square opening, 19 glasses	\$16.00
Large Door, 30" square, 24" square opening, 19 glasses	\$20.00

These doors
are made very
strong, for
rough usage;
have a very
heavy cast
iron frame,

with thimble 7 inches deep, and wrought iron door made from $\frac{1}{4}$ inch boiler iron, well supported with angle iron. They are well adapted for taking in steam coal or small freight, are water tight when closed, and lock with a bolt on under side. Above sizes kept in stock. Other sizes made to order.



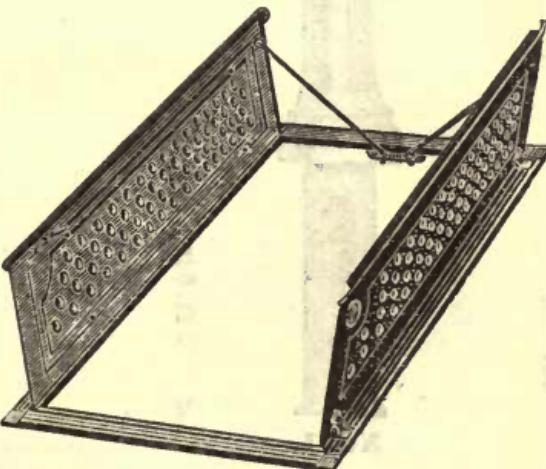
SOLID IRON ALLEY COAL HOLE COVER AND FRAME.



Price List.

No. 1, 26" square, 20" square opening,	\$15.00
No. 2, 30" square, 24" square opening	\$20.00

These covers are very
strong and can be driven
over with heavy loads.



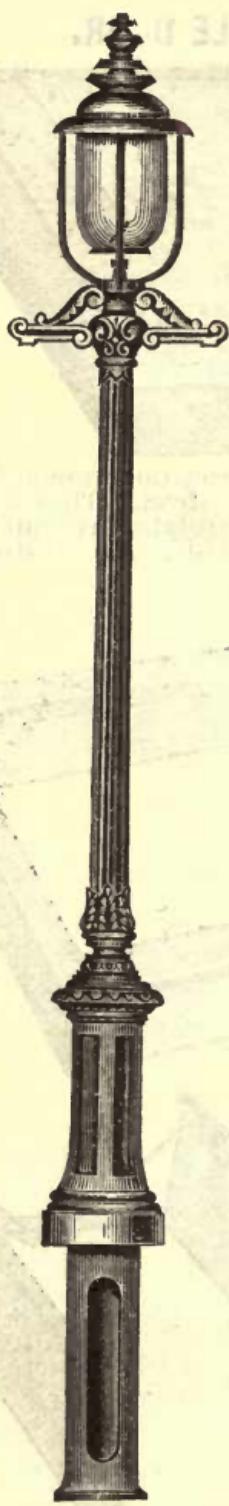
TRAP DOORS.

This cut represents Trap
Doors for use over
basement stairs, slides, side-
walk elevators, etc.

Are water tight when
closed, and fitted with
strong brass hinges and
hooks to hold them open,
and bolt to fasten them
when closed.

DEARBORN FOUNDRY COMPANY.

LAMP POSTS.



Post, \$15.00 Lantern, \$12.50 Each.

No. 1.

<.....2 ft. 6 in.....>.....8 ft. 2½ in.....>



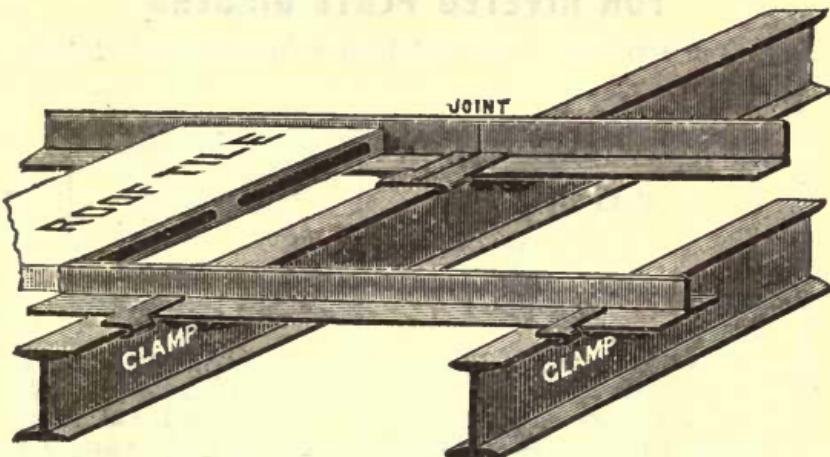
Post, \$12.50. Lantern, \$6.00 Each.

No. 2.

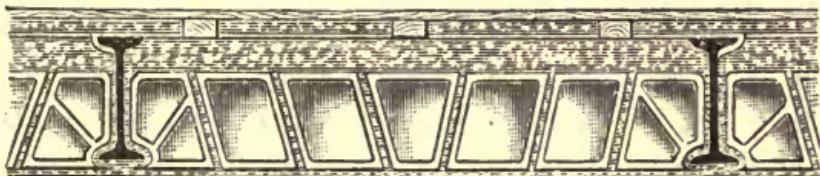
<.....2 ft. 8 in.....>.....8 ft. 2 in.....>

DEARBORN FOUNDRY COMPANY.

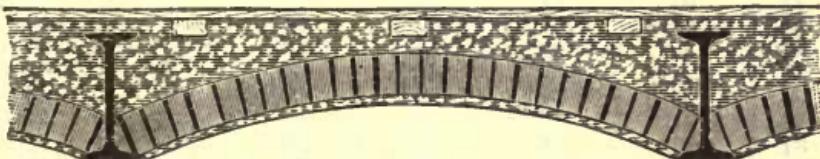
SECTIONS OF FIRE-PROOF CONSTRUCTION.



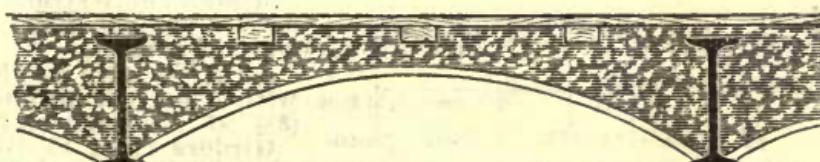
Dearborn Foundry Company's Patent Metal Clamp for attaching roof purlins to roof beams.



This view shows a fire-proof floor constructed with hollow tile arches, leveled up with concrete, having wooden strips bedded in the concrete to receive the flooring nails.



This view shows a fire-proof floor as ordinarily constructed, with brick arches, leveled up with concrete, having wooden strips bedded in the concrete to receive the flooring nails.



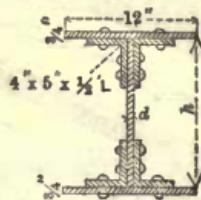
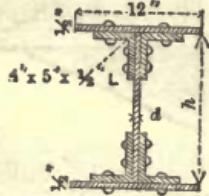
This view shows a fire-proof floor constructed with corrugated iron arches, leveled up with concrete, having wooden strips bedded in the concrete to receive the flooring nails.

DEARBORN FOUNDRY COMPANY.

**SAFE UNIFORMLY DISTRIBUTED STATIONARY LOAD
FOR RIVETED PLATE GIRDERS.**

In tons of 2,000 lbs. $w = \text{weight per lineal foot of girder.}$

Length of Girder in ft. between supports=1.



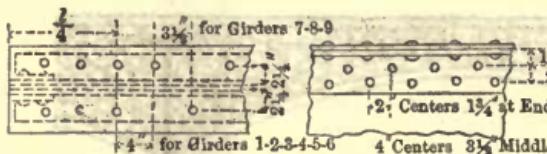
$$\begin{aligned}d &= \frac{5}{8} \text{ for } l = 10' \text{ to } 14' \\d &= \frac{1}{2} \text{ for } l = 15' \text{ to } 20' \\d &= \frac{3}{8} \text{ for } l = 21' \text{ to } 40'\end{aligned}$$

Rivets $\frac{3}{8}$ " diam. 2" pitch at ends for 1+4; then 4" pitch, staggered.

$$\begin{aligned}d &= \frac{5}{8} \text{ for } l = 10' \text{ to } 14' \\d &= \frac{1}{2} \text{ for } l = 15' \text{ to } 20' \\d &= \frac{3}{8} \text{ for } l = 21' \text{ to } 40'\end{aligned}$$

Rivets $\frac{3}{8}$ " diam. 2" pitch at ends for 1+4; then 4" pitch, staggered.

No. 1	h = 1' 4"	w = { 136 lbs. 130 " "	No. 2	h = 1' 8"	w = { 144 lbs. 136 " "	No. 3	h = 2' 0"	w = { 152 lbs. 142 " "	No. 4	h = 1' 4"	w = { 160 lbs. 153 " "	No. 5	h = 1' 8"	w = { 168 lbs. 159 " "	No. 6	h = 2' 0"	w = { 176 lbs. 166 " "
10	78		98			118			94			118			142		
12	65		81			98			78			98			118		
14	56		70			84			67			84			101		
16	49		61			74			59			74			83		
18	43		54			65			52			65			79		
20	39		49			59			47			59			71		
22	35		45			53			43			53			65		
24	32		41			49			39			49			59		
26	30		38			45			36			45			55		
28	28		35			42			34			42			51		
30	26		33			39			31			39			47		
32	24		31			37			29			37			44		
34	23		29			35			27			35			42		
36	22		27			33			26			33			39		
38	21		26			31			25			31			37		
40	20		25			29			24			29			35		



have another pair of stiffeners ($3\frac{1}{2}'' \times 3\frac{1}{2}'' \times \frac{1}{2}''$) in distance=h from each end.

Girders from 21' to 40' have a third pair of stiffeners ($3\frac{1}{2}'' \times 3\frac{1}{2}'' \times \frac{1}{2}''$) in distance= $2\frac{1}{2}h$ from each end.

Allowed fibre strain per square inch of gross section=10,000 lbs.

All girders are provided with a pair of stiffeners ($3\frac{1}{2}'' \times 5'' \times \frac{1}{2}''$) at each end.

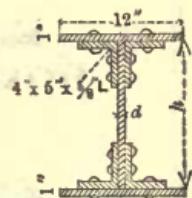
Girders from 15' to 20'

DEARBORN FOUNDRY COMPANY.

**SAFE UNIFORMLY DISTRIBUTED STATIONARY LOAD
FOR RIVETED PLATE GIRDERS.**

In tons of 2,000 lbs. $w =$ weight per lineal foot of girder.

Length of Girder in ft. between supports=1.

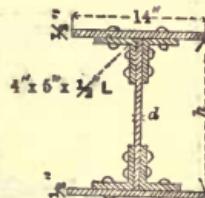


$$d = \frac{1}{8} \text{ for } l = 10' \text{ to } 14'$$

$$d = \frac{1}{6} \text{ for } l = 15' \text{ to } 20'$$

$$d = \frac{1}{4} \text{ for } l = 21' \text{ to } 40'$$

Rivets $\frac{1}{8}$ " diam. $1\frac{1}{4}$ " pitch at ends for $l+4$; then $3\frac{1}{2}$ " pitch, staggered.



$$d = \frac{1}{8} \text{ for } l = 10' \text{ to } 14'$$

$$d = \frac{1}{6} \text{ for } l = 15' \text{ to } 20'$$

$$d = \frac{1}{4} \text{ for } l = 21' \text{ to } 40'$$

Rivets $\frac{1}{4}$ " diam. $1\frac{1}{4}$ " pitch at ends for $l+4$; then $3\frac{1}{2}$ " pitch, staggered.

	No. 7	No. 8	No. 9	No. 10	No. 11	No. 12
10	122	153	184	83	105	126
12	101	128	153	69	87	104
14	87	109	131	60	75	90
16	76	95	115	52	65	78
18	68	85	102	46	58	70
20	61	77	92	42	52	63
22	56	70	84	38	48	57
24	51	64	77	35	44	52
26	47	59	71	32	40	48
28	44	55	66	30	37	45
30	41	51	61	28	35	42
32	38	48	58	26	33	39
34	36	45	54	25	31	37
36	34	43	51	23	29	35
38	32	40	48	22	28	33
40	31	38	46	21	26	31

Allowed fibre strain per square inch of gross section=10,000 lbs.
All girders are provided with a pair of stiffeners ($3\frac{1}{2}" \times 5" \times \frac{1}{2}" L$) at each end.

Girders from 15' to 20' have another pair of stiffeners ($3\frac{1}{2}" \times 3\frac{1}{2}" \times \frac{1}{2}"$) in distance=h from each end.

Girders from 21' to 40' have a third pair of stiffeners ($3\frac{1}{2}" \times 3\frac{1}{2}" \times \frac{1}{2}"$) in distance= $2\frac{1}{2}h$ from each end.

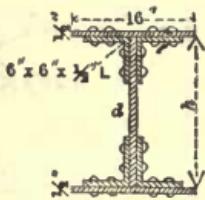
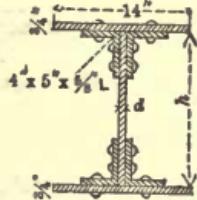
The weight of the stiffeners is not included in the weight per lineal foot given in tables.

DEARBORN FOUNDRY COMPANY.

SAFE UNIFORMLY DISTRIBUTED STATIONARY LOAD FOR RIVETED PLATE GIRDERS.

In tons of 2,000 lbs. $w =$ weight per lineal foot of girder.

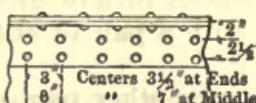
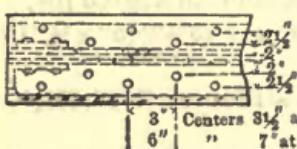
Length of Girder in ft. between supports=1.



$d = \frac{3}{8}$ for $l = 10'$ to $14'$
 $d = \frac{9}{16}$ for $l = 15'$ to $20'$
 $d = \frac{7}{16}$ for $l = 21'$ to $40'$
 Rivets $\frac{3}{8}$ " diam. $1\frac{3}{4}$ " pitch at ends
 for $l+4$; then $3\frac{1}{2}$ " pitch, staggered

$d = \frac{3}{8}$ for $l = 10'$ to $14'$
 $d = \frac{9}{16}$ for $l = 15'$ to $20'$
 $d = \frac{7}{16}$ for $l = 21'$ to $40'$
 Rivets $\frac{7}{8}$ " diam. $3\frac{1}{2}$ " pitch at ends
 for $l+4$; then $7"$ pitch.

No. 13	No. 14	No. 15	No. 19	No. 20	No. 21
10	114	143	172	130	156
12	95	119	143	108	130
14	81	102	123	93	111
16	71	90	108	81	97
18	63	80	96	72	87
20	57	72	86	65	78
22	52	65	78	59	71
24	48	60	72	54	65
26	44	55	66	50	60
28	41	51	61	46	56
30	38	48	57	43	52
32	36	45	54	41	49
34	34	42	51	38	46
36	32	40	48	36	43
38	30	38	45	34	41
40	29	36	43	32	39



Allowed fibre strain per square inch of gross section = 10,000 lbs.

All girders are provided with a pair of stiffeners ($4'' \times 6'' \times \frac{1}{2}''$) at each end.

Girders from 15' to 20'

have another pair of stiffeners ($3\frac{1}{2}'' \times 4'' \times \frac{1}{2}''$) in distance = h from each end.

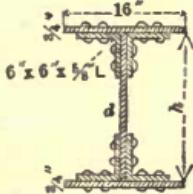
Girders from 21' to 40' have a third pair of stiffeners ($3\frac{1}{2}'' \times 4'' \times \frac{1}{2}''$) in distance = $2\frac{1}{2}h$ from each end.

DEARBORN FOUNDRY COMPANY.

SAFE UNIFORMLY DISTRIBUTED STATIONARY LOAD FOR RIVETED PLATE GIRDERS.

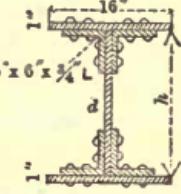
In tons of 2,000 lbs. $w = \text{weight per lineal foot of girder.}$

Length of Girder in ft. between supports=1.



$d = \frac{7}{8}''$ for $l = 12'$ to $14'$
 $d = \frac{11}{16}''$ for $l = 15'$ to $21'$
 $d = \frac{1}{2}''$ for $l = 22'$ to $40'$
 Rivets $\frac{3}{8}''$ diam. $3''$ pitch at ends
 for $l+4$; then $6''$ pitch.

No. 22	No. 23	No. 24
$h = 1' 8''$ $w = \left\{ \begin{array}{l} 246 \text{ lbs.} \\ 233 \text{ "} \\ 221 \text{ "} \end{array} \right.$	$h = 2' 0''$ $w = \left\{ \begin{array}{l} 262 \text{ lbs.} \\ 246 \text{ "} \\ 230 \text{ "} \end{array} \right.$	$h = 2' 4''$ $w = \left\{ \begin{array}{l} 269 \text{ lbs.} \\ 252 \text{ "} \\ 234 \text{ "} \end{array} \right.$



$d = \frac{7}{8}''$ for $l = 14'$ to $18'$
 $d = \frac{11}{16}''$ for $l = 19'$ to $27'$
 $d = \frac{1}{2}''$ for $l = 28'$ to $40'$
 Rivets $\frac{7}{8}''$ diam. $3''$ pitch at ends
 for $l+4$; then $6''$ pitch.

No. 25	No. 26	No. 27
$h = 1' 8''$ $w = \left\{ \begin{array}{l} 292 \text{ lbs.} \\ 280 \text{ "} \\ 267 \text{ "} \end{array} \right.$	$h = 2' 0''$ $w = \left\{ \begin{array}{l} 304 \text{ lbs.} \\ 289 \text{ "} \\ 274 \text{ "} \end{array} \right.$	$h = 2' 4''$ $w = \left\{ \begin{array}{l} 316 \text{ lbs.} \\ 298 \text{ "} \\ 281 \text{ "} \end{array} \right.$

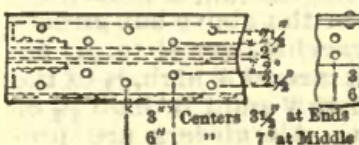
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40

147	177	207
126	151	177
111	133	155
98	118	138
88	106	124
81	96	113
74	88	103
68	82	95
63	76	89
59	71	83
55	66	78
52	62	73
49	59	69
47	56	65
44	53	62

160
140
124
112
102
93
86
80
75
70
66
62
59
56

191
168
149
134
122
112
103
96
89
84
79
74
70
67

224
196
174
157
142
130
120
112
104
98
92
87
82
78



have another pair of stiffeners ($3\frac{1}{2}'' \times 4'' \times \frac{3}{8}''$) in distance= h from each end.

Girders from $21'$ to $40'$ have a third pair of stiffeners ($3\frac{1}{2}'' \times 4'' \times \frac{3}{8}''$) in distance= $2\frac{1}{2}h$ from each end.

Allowed fibre strain per square inch of gross section= $10,000$ lbs.

All girders are provided with a pair of stiffeners ($4'' \times 6'' \times \frac{1}{2}''$) at each end.

Girders from $15'$ to $20'$

DEARBORN FOUNDRY COMPANY.

SAFE UNIFORMLY DISTRIBUTED STATIONARY LOAD FOR RIVETED BOX GIRDERS.

In tons of 2,000 lbs.

w = weight per lineal ft. of girder.

Length of Box Girder in ft. between supports = 1.											
 $d = \frac{3}{8}$ " except where marked different. 16' to 30' { $\frac{3}{4}$ " rivets 1 $\frac{1}{4}$ " pitch at ends for 1+4, then 3 $\frac{1}{2}$ " pitch staggered. 31' to 50' { $\frac{3}{4}$ " rivets 2 $\frac{1}{4}$ " pitch at ends for 1+4, then 5" pitch staggered.											
	No. 28	No. 29	No. 30	No. 31		No. 32	No. 33	No. 34	No. 35		
16	83	101	136	174	$\frac{1}{2}$ " web.	107	130	172	226		
18	74	90	122	155		95	116	153	201		
20	66	81	104	139		86	104	137	181		
22	60	73	95	127		78	95	125	158		
24	55	67	87	116		71	87	115	145		
26	51	62	80	107	$\frac{1}{2}$ " web.	66	80	102	134		
28	48	58	74	97		61	74	95	125		
30	44	54	69	89		57	69	89	116		
32	41	51	65	83		54	65	84	109		
34	39	48	61	78		50	61	79	103		
36	37	45	58	74		48	58	74	95		
38	35	43	55	70		45	55	70	89		
40	33	40	52	66		43	52	67	84		
42	31	38	50	63		41	50	64	80		
44	30	37	47	60		39	47	61	76		
46	29	35	45	58		37	45	58	73		
48	28	34	43	55		36	43	56	70		
50	27	32	42	53		34	42	53	67		

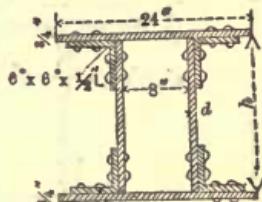
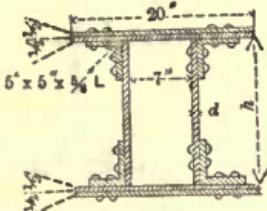
Allowed fiber strain per square in. of gross section = 10,000 lbs.

In figuring the moment of resistance of the above box girders a part of the web is taken into account varying from $\frac{1}{6}$ to $\frac{1}{12}$, according to the different heights, so that in girders 3' high, $\frac{1}{6}$ of the web area; in girders 2' 6" high $\frac{1}{10}$; in girders 2' and 1' 8" high $\frac{1}{12}$ of the area is added to the flange section. All girders are provided with a pair of stiffeners ($3\frac{1}{2}" \times 5" \times \frac{1}{2}"$) at each end, and a second pair ($3\frac{1}{2}" \times 3\frac{1}{2}" \times \frac{1}{2}"$) in distance = h from each end. Girders from 30' to 50' have a third pair of stiffeners ($3\frac{1}{2}" \times 3\frac{1}{2}" \times \frac{1}{2}"$) in distance = $2\frac{1}{2} h$ from each end. The weight of the stiffeners is not included in the weight per lineal foot given in tables.

DEARBORN FOUNDRY COMPANY.

SAFE UNIFORMLY DISTRIBUTED STATIONARY LOAD FOR RIVETED BOX GIRDERS.

In tons of 2,000 lbs. w = weight per lineal ft. of girder.



$d = \frac{3}{8}$ " except where marked different.
16' to 30' { $\frac{7}{8}$ " rivets 1 1/2" pitch at ends for
1+4, then 3" pitch staggered.
31' to 50' { $\frac{7}{8}$ " rivets 2 1/2" pitch at ends for
1+4, then 5" pitch staggered.

$d = \frac{3}{8}$ " except where marked different.
16' to 30' { $\frac{7}{8}$ " rivets 1 1/4" pitch at ends for
1+4, then 3" pitch staggered.
31' to 50' { $\frac{7}{8}$ " rivets 2 1/2" pitch at ends for
1+4, then 5" pitch staggered.

Length of Box Girder in ft. between supports = 1.

	No. 36	No. 37	No. 38	No. 39	No. 40	No. 41	No. 42	No. 43
16	140 $\frac{1}{2}$ " web	170 $\frac{1}{2}$ " web	224	283	158 $\frac{1}{2}$ " web	203	264	...
18	122	151	199	252	140	180	366 lbs.	...
20	110	136	175	226	124	162	335 lbs.	296 lbs.
22	100	121	159	206	103	148	303 lbs.	269 lbs.
24	91	111	146	189	95	135	290 lbs.	247 lbs.
26	84	103	135	169	89	125	275 lbs.	228 lbs.
28	78	95	125	157	83	111	296 lbs.	211 lbs.
30	73	89	117	146	78	97	316 lbs.	197 lbs.
32	69	84	107	137	73	91	335 lbs.	177 lbs.
34	65	79	101	129	69	86	303 lbs.	167 lbs.
36	61	74	95	121	65	82	290 lbs.	158 lbs.
38	58	70	90	115	62	78	275 lbs.	149 lbs.
40	55	67	86	110	59	74	264 lbs.	142 lbs.
42	52	64	81	101	54	68	250 lbs.	135 lbs.
44	50	61	78	97	56	71	235 lbs.	129 lbs.
46	48	58	74	93	52	65	220 lbs.	123 lbs.
48	46	56	71	89	50	62	205 lbs.	118 lbs.
50	44	53	68	85	79	77	190 lbs.	114 lbs.

Allowed fiber strain per square in. of gross section = 10,000 lbs.

In figuring the moment of resistance of the above box girders a part of the web is taken into account varying from $\frac{1}{8}$ to $\frac{1}{2}$, according to the different heights, so that in girders 3' and 4' high, $\frac{1}{8}$ of the web area; in girders 2' 6" high $\frac{1}{10}$; in girders 2' and 1' 8" high $\frac{1}{2}$ of the area is added to the flange section. All girders are provided with a pair of stiffeners ($3\frac{1}{2}" \times 5" \times \frac{1}{2}"$) at each end, and a second pair ($3\frac{1}{2}" \times 3\frac{1}{2}" \times \frac{1}{2}"$) in distance = h from each end. Girders from 30' to 50' have a third pair of stiffeners ($3\frac{1}{2}" \times 3\frac{1}{2}" \times \frac{1}{2}"$) in distance = $2\frac{1}{2}h$ from each end. The weight of the stiffeners is not included in the weight per lineal foot given in tables.

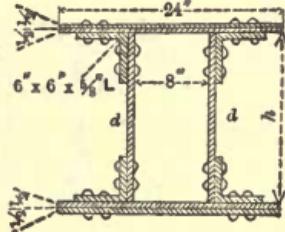
DEARBORN FOUNDRY COMPANY.

SAFE UNIFORMLY DISTRIBUTED STATIONARY LOAD FOR RIVETED BOX GIRDERS.

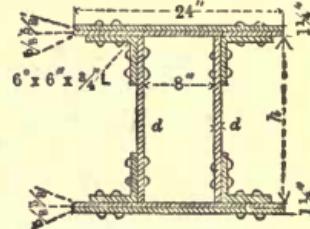
In tons of 2,000 lbs.

w = weight per lineal ft. of girder.

Length of Box Girder in ft. between supports = l.



$d = \frac{3}{8}$ " except where marked different.
16' to 19' { $\frac{7}{8}$ " rivets 1 1/2" pitch at ends for
1+4, then 3" pitch staggered.
20' to 39' { $\frac{7}{8}$ " rivets 1 1/2" pitch at ends for
1+4, then 3" pitch staggered.
31' to 50' { $\frac{7}{8}$ " rivets 2 1/2" pitch at ends for
1+4, then 5" pitch staggered.



$d = \frac{3}{8}$ " except where marked different.
16' to 19' { 1" rivets 1 1/4" pitch at ends for
1+4, then 3 1/2" pitch staggered.
20' to 39' { $\frac{7}{8}$ " rivets 1 1/2" pitch at ends for
1+4, then 3" pitch staggered.
31' to 50' { $\frac{7}{8}$ " rivets 2 1/2" pitch at ends for
1+4, then 5" pitch staggered.

	No. 44	No. 45	No. 46	No. 47	No. 48	No. 49	No. 50	No. 51
16	203	265	332	.....	247	316	.....	.....
18	180	236	295	.....	220	281	358	441
20	162	212	265	.....	195	253	322	401
22	148	190	241	347	178	230	286	368
24	135	174	221	318	163	211	263	339
26	124	161	204	284	150	192	242	315
28	115	149	190	264	140	178	225	293
30	107	139	173	246	130	166	210	275
32	100	130	162	231	121	156	197	258
34	94	123	152	217	114	147	182	244
36	89	116	144	205	108	139	171	231
38	85	108	136	194	102	131	162	220
40	80	102	130	179	97	125	154	209
42	76	97	123	170	92	119	147	200
44	73	93	118	162	88	112	140	191
46	70	89	113	155	84	107	133	183
48	67	85	108	149	81	102	129	176
50	64	82	104	143	77	98	124	

Allowed fiber strain per square in. of gross section = 10,000 lbs.

In figuring the moment of resistance of the above box girders a part of the web is taken into account varying from $\frac{1}{8}$ to $\frac{1}{2}$, according to the different heights, so that in girders 3' and 4' high, $\frac{1}{8}$ of the web area; in girders 2' 6" high $\frac{1}{10}$; in girders 2' 0" high $\frac{1}{2}$ of the area is added to the flange section. All girders are provided with a pair of stiffeners ($3\frac{1}{2}$ " x 5" x $\frac{1}{2}$) at each end, and a second pair ($3\frac{1}{2}$ " x $3\frac{1}{2}$ " x $\frac{1}{2}$) in distance = h from each end. Girders from 30' to 50' have a third pair of stiffeners ($3\frac{1}{2}$ " x $3\frac{1}{2}$ " x $\frac{3}{8}$ ") in distance = $2\frac{1}{2}$ h from each end. The weight of the stiffeners is not included in the weight per lineal foot given in tables.

DEARBORN FOUNDRY COMPANY.

TABLE OF STRENGTH OF WROUGHT IRON BEAMS,
WITH RIVETED PLATES TOP AND BOTTOM, SHOW-
ING UNIFORMLY DISTRIBUTED SAFE LOAD,
IN TONS OF 2,000 LBS.

Span in feet.	Section 1.	Section 2.	Section 3.	Section 4.
	Composed of 2-12" Beams. 42 lbs. per ft. Top plate 12" x $\frac{1}{2}$ " Bottom pl. 12" x $\frac{3}{8}$ "	Composed of 2-12" Beams, 60 lbs. per ft. Top plate 12" x $\frac{1}{2}$ " Bottom pl. 12" x $\frac{3}{8}$ "	Composed of 2-15" Beams, 50 lbs. per ft. Top Plate 14" x $\frac{5}{8}$ " Bottom pl. 12" x $\frac{3}{4}$ "	Composed of 2-15" Beams. 67 lbs. per ft. Top plate 14" x $\frac{5}{8}$ " Bottom pl. 14" x $\frac{3}{4}$ "
Load in tons.	Load in tons.	Load in tons.	Load in tons.	
10	51.1	60.0	82.7	98.6
11	46.5	54.9	75.5	89.3
12	42.6	50.6	69.5	81.5
13	39.5	46.9	64.3	75.5
14	36.5	43.4	59.8	70.4
15	34.1	40.3	55.3	65.8
16	31.9	37.5	52.2	61.8
17	30.1	35.2	49.0	58.2
18	28.4	33.0	46.2	54.9
19	26.9	31.0	43.8	52.1
20	25.5	29.4	41.4	49.4
21	24.5	27.8	39.6	47.1
22	23.4	26.7	37.8	44.8
23	22.2	25.6	36.2	43.0
24	21.3	24.6	34.7	41.0
25	20.7	23.9	33.4	39.4
26	20.0	23.1	31.7	37.8
27	19.3	22.3	30.5	36.3
28	18.6	21.5	29.5	34.9
29	17.9	20.8	28.6	33.8
30	17.2	20.0	27.6	32.6
31	16.6	19.5	26.7	31.6
32	16.2	18.8	26.1	30.7
33	15.6	18.2	25.3	29.8
34	14.9	17.6	24.6	29.0
35	14.3	17.0	24.0	28.2

Three-quarter inch rivets should be spaced as follows :

For the first $\frac{1}{6}$ of span beginning at both ends, 3" centre to centre of rivets.

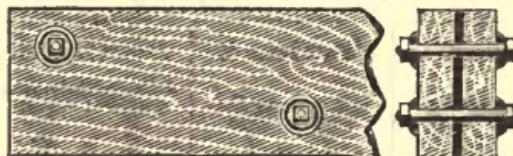
For the second $\frac{1}{6}$ of span beginning at both ends, $4\frac{1}{2}$ " centre to centre of rivets.

For the remainder $\frac{1}{3}$ span, 6" centre to centre of rivets.

DEARBORN FOUNDRY COMPANY.

THE FOLLOWING TABLE GIVES THE SAFE LOAD EQUALLY DISTRIBUTED IN TONS OF 2,000 LBS. FOR SANDWICH GIRDERS.

FIG. 1.



Elevation of Sandwich Girder. Section.

The attached table give the safe uniformly distributed load, in tons of 2,000 lbs. of girders, composed of wooden beams, with iron plates inserted between them, or *vice versa*, as the sketch shows. In the calculation iron and wood have been considered separately, and their respective carrying capacity for various spans ascertained. To obtain the total strength of such girders, add together the figures representing safe loads for each of the components of the girder. EXAMPLE: What is the safe load of a girder composed of two 3" x 12" wooden beams, 20 feet long, with a flitch plate 12" x 5-8"? The table gives for 12" x 5-8" x 20'0" plate, 3.00 tons, and for 1" thickness of 3" x 12" x 20'0" beam, 0.54 tons. As the total thickness of wood is 6", the load will be 6×0.54 , or 3.24 tons, which, together with iron plate, makes 6.24 tons as allowable load. In similar way the load of any other girder of such kind may be found.

FIG. 2.



Elevation of Sandwich Girder. Section.

This method of calculating the safe load is based upon the supposition, which is general among builders, that both materials of which the girder is composed act simultaneously in resisting the external forces. This, however, owing to difference of modulus of elasticity of the two materials, seldom takes place, therefore such girders should be used cautiously, and it is better in calculating the safe load of this kind of girder for the more important structures, to take from the table the full value for flitch plate, but only one-half of the value given for wood. To prevent yielding sideways, the width of the girder should not be less than one-half of its depth approximately.

The following tables give strength of one plate, as shown in Fig. No. 1.

If girder has two (2) plates, as shown in Fig. 2, each plate will carry the weight as given in table.

In instances where there is no special reason to use such girders, wrought iron beams will always be found lighter, more reliable, and more economical.

SAFE LOAD IN TONS FOR FLITCH PLATE GIRDERS

Span in feet.	DEPTH 10"					Thickness of Wood.	DEPTH 12"					Thickness of Wood.	
	Thickness of Plate.	$\frac{1}{4}''$	$\frac{3}{8}''$	$\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	Thickness of Plate.	$\frac{1}{4}''$	$\frac{3}{8}''$	$\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	
													1"
8	2.09	3.12	4.18	5.21	6.25	0.937	3.00	4.50	6.00	7.50	9.00		1.35
9	1.85	2.75	3.70	4.58	5.50	0.85	2.70	4.00	5.40	6.68	8.00		1.20
10	1.67	2.50	3.34	4.17	5.00	0.75	2.40	3.60	4.80	6.00	7.20		1.08
11	1.50	2.28	3.00	3.80	4.56	0.68	2.16	3.30	4.32	5.50	6.60		0.99
12	1.39	2.10	2.78	3.50	4.20	0.62	2.00	3.00	4.00	5.00	6.00		0.90
13	1.27	1.92	2.54	3.20	3.84	0.58	1.83	2.75	3.66	4.64	5.50		0.845
14	1.18	1.78	2.36	2.97	3.56	0.536	1.71	2.56	3.42	4.30	5.12		0.772
15	1.11	1.67	2.22	2.75	3.34	0.50	1.60	2.40	3.20	4.00	4.80		0.725
16	1.04	1.53	2.08	2.55	3.06	0.468	1.50	2.25	3.00	3.75	4.50		0.675
17	0.96	1.46	1.92	2.40	2.92	0.44	1.40	2.10	2.80	3.52	4.20		0.64
18	0.92	1.38	1.84	2.28	2.76	0.417	1.32	2.00	2.63	3.32	4.00		0.60
19	0.88	1.32	1.76	2.20	2.64	0.392	1.27	1.90	2.53	3.16	3.80		0.565
20	0.84	1.25	1.68	2.08	2.50	0.375	1.20	1.80	2.40	3.00	3.60		0.54
21	0.80	1.18	1.60	1.99	2.36	0.354	1.17	1.72	2.24	2.84	3.44		0.50
22	0.77	1.14	1.54	1.89	2.28	0.34	1.12	1.66	2.14	2.75	3.32		0.465
23	0.74	1.09	1.48	1.80	2.19	0.325	1.08	1.59	2.10	2.62	3.18		0.46
24	0.70	1.05	1.40	1.72	2.09	0.31	1.00	1.50	2.00	2.50	3.00		0.445
25	0.66	1.00	1.33	1.66	2.00	0.3	0.97	1.45	1.94	2.41	2.90		0.43
26	0.64	0.97	1.28	1.61	1.94	0.286	0.94	1.40	1.88	2.32	2.80		0.415
27	0.61	0.94	1.22	1.56	1.88	0.275	0.90	1.35	1.80	2.23	2.70		0.40
28	0.60	0.90	1.20	1.51	1.80	0.267	0.87	1.30	1.74	2.16	2.60		0.385
29	0.58	0.88	1.16	1.45	1.76	0.258	0.83	1.25	1.66	2.08	2.50		0.37
30	0.55	0.83	1.10	1.40	1.66	0.25	0.80	1.20	1.60	2.00	2.40		0.36

Span in feet.	DEPTH 14"					Thickness of Wood.	DEPTH 16"					Thickness of Wood.	
	Thickness of Plate.	$\frac{1}{4}''$	$\frac{3}{8}''$	$\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	Thickness of Plate.	$\frac{1}{4}''$	$\frac{3}{8}''$	$\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	
													1"
8	4.08	6.12	8.16	10.21	12.25	1.837	5.33	8.00	10.66	13.18	16.00		2.4
9	3.61	5.50	7.22	9.20	11.00	1.625	4.75	7.20	9.50	11.90	14.40		2.15
10	3.25	4.90	6.50	8.16	9.80	1.47	4.26	6.40	8.52	10.55	12.80		1.92
11	3.00	4.50	6.00	7.50	9.00	1.325	3.90	5.90	7.80	9.60	11.80		1.75
12	2.72	4.08	5.44	6.80	8.16	1.225	3.56	5.33	7.12	8.78	10.67		1.60
13	2.56	3.81	5.12	6.30	7.62	1.125	3.30	4.95	6.60	8.10	9.90		1.485
14	2.36	3.52	4.72	5.82	7.04	1.05	3.06	4.55	6.12	7.54	9.10		1.37
15	2.20	3.28	4.40	5.40	6.56	0.98	2.85	4.20	5.70	7.02	8.58		1.29
16	2.04	3.06	4.08	5.04	6.12	0.94	2.67	4.00	5.34	6.59	8.00		1.20
17	1.90	2.85	3.80	4.72	5.70	0.865	2.51	3.75	5.02	6.20	7.50		1.13
18	1.81	2.70	3.62	4.50	5.40	0.817	2.39	3.55	4.78	5.89	7.10		1.065
19	1.70	2.55	3.40	4.29	5.10	0.76	2.28	3.37	4.50	5.59	6.74		1.02
20	1.62	2.45	3.24	4.08	4.90	0.735	2.13	3.20	4.27	5.27	6.40		0.96
21	1.55	2.30	3.10	3.89	4.60	0.695	2.02	3.03	4.04	5.02	6.06		0.915
22	1.48	2.20	2.96	3.72	4.40	0.66	1.93	2.94	3.86	4.80	5.88		0.87
23	1.42	2.10	2.84	3.58	4.20	0.635	1.85	2.78	3.70	4.58	5.56		0.825
24	1.36	2.04	2.72	3.40	4.08	0.61	1.78	2.66	3.56	4.39	5.33		0.795
25	1.31	1.97	2.62	3.27	3.94	0.588	1.69	2.55	3.38	4.20	5.10		0.765
26	1.27	1.90	2.54	3.15	3.80	0.56	1.62	2.45	3.24	4.03	4.90		0.735
27	1.22	1.83	2.44	3.03	3.66	0.545	1.56	2.35	3.12	3.90	4.70		0.70
28	1.18	1.76	2.36	2.93	3.52	0.525	1.51	2.27	3.02	3.77	4.54		0.675
29	1.13	1.70	2.26	2.81	3.40	0.505	1.46	2.20	2.92	3.64	4.40		0.655
30	1.08	1.63	2.16	2.72	3.26	0.49	1.42	2.13	2.85	3.52	4.26		0.64

DEARBORN FOUNDRY COMPANY.

WOODEN BEAMS.

**Safe Load, Uniformly Distributed, for Rectangular
White or Yellow Pine Beams one inch thick,**

allowing 1200 lbs. per square inch fiber strain.

To obtain the safe load for any thickness, multiply the safe load given in table, by the thickness of beam.

To obtain the required thickness for any load, divide by the safe load for 1 inch, given in table.

Span in Feet	DEPTH OF BEAM.											
	6"	7"	8"	9"	10"	11"	12"	13"	14"	15"	16"	
Feet.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
5	960	1310	1710	2160	2670	3230	3840	4510	5230	6000	6830	
6	800	1090	1420	1800	2220	2690	3200	3760	4360	5000	5690	
7	690	930	1220	1540	1900	2300	2740	3220	3730	4290	4880	
8	600	820	1070	1350	1670	2020	2400	2820	3270	3750	4270	
9	530	730	950	1200	1480	1790	2130	2500	2900	3330	3790	
10	480	650	850	1080	1330	1610	1920	2250	2610	3000	3410	
11	440	590	780	980	1210	1470	1750	2050	2380	2730	3100	
12	400	540	710	900	1110	1340	1600	1880	2180	2500	2840	
13	370	500	660	830	1030	1240	1480	1730	2010	2310	2630	
14	340	470	610	770	950	1150	1370	1610	1870	2140	2440	
15	320	440	570	720	890	1080	1280	1500	1740	2000	2280	
16	300	410	530	680	830	1010	1200	1410	1630	1880	2130	
17	280	380	500	640	780	950	1130	1330	1540	1760	2010	
18	270	360	470	600	740	900	1070	1250	1450	1670	1900	
19	250	340	450	570	700	850	1010	1190	1380	1580	1800	
20	240	330	430	540	670	810	960	1130	1310	1500	1710	
21	230	310	410	510	630	770	910	1070	1240	1430	1630	
22	220	300	390	490	610	730	870	1020	1190	1360	1550	
23	210	280	370	470	580	700	830	980	1140	1300	1480	
24	200	270	360	450	560	670	800	940	1090	1250	1420	
25	190	260	340	430	530	650	770	900	1050	1200	1370	
26	180	250	330	420	510	620	740	870	1010	1150	1310	
27	180	240	320	400	500	600	710	830	970	1110	1260	
28	170	230	300	390	480	580	690	800	930	1070	1220	
29	170	230	290	370	460	560	660	780	900	1030	1180	

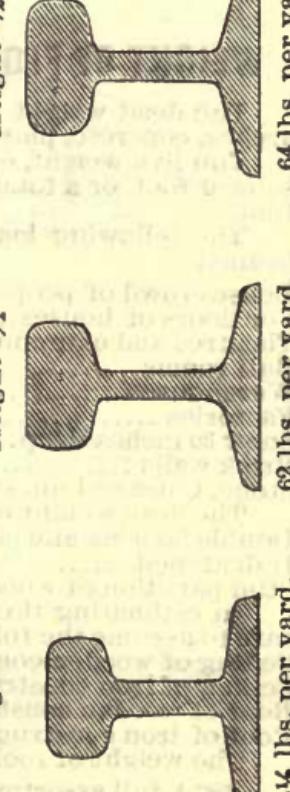
DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

**SAFE LOAD, EQUALLY DISTRIBUTED IN TONS OF 2,000 LBS., FOR RAILROAD
IRON USED AS BEAMS, FACTOR OF SAFETY 5.**

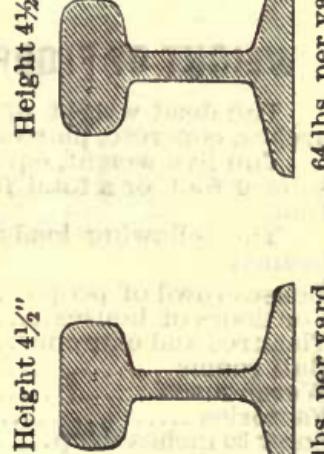
	SPAN IN FEET.														
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4 Rail 52 lbs. per yard.....	10.73	7.15	5.36	4.29	3.57	3.06	2.68	2.37	2.15	1.95	1.79	1.64	1.53	1.43	1.39
4 Rail 60 lbs. per yard.....	11.90	7.93	5.65	4.76	3.96	3.40	2.97	2.64	2.38	2.15	1.98	1.83	1.70	1.59	1.55
Deflection under above load in inches.....	{ 0.045	0.050	0.073	0.090	0.125	0.172	0.230	0.298	0.371	0.445	0.537	0.630	0.729	0.834	0.935

Note.—The above Table is calculated for new Rails. If old Iron is used, only 60% to 70% of the load given should be taken. Steel Rails will carry with safety 33% more than Iron Rails as given in the above Tables.

Height 4"

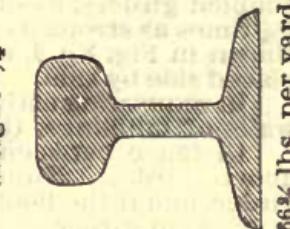


56½ lbs. per yard.



62 lbs. per yard.

Height 4 1/4"



64 lbs. per yard.

Height 4"



66 2/3 lbs. per yard.

60 lbs. per yard.



DEARBORN FOUNDRY COMPANY.

NOTES ON GIRDERS AND FLOORS.

In using beams as girders, to carry the front walls of a building, care must be taken that the piers or walls, upon which the ends of girders rest, are strong enough to support the weight. The pressure on a brick wall should not exceed eight tons per square foot.

Under the ends of girders a cast-iron plate should be used.

Girders can be formed of two or more beams bolted together every five or six feet, with cast-iron separators, as shown in Fig. No. 1 or No. 2, and when required the beams can be made into coupled girders, as shown in Fig. No. 3, which makes each beam $1\frac{1}{4}$ times as strong as if placed side by side. A trebled girder, as shown in Fig. No. 4, makes each beam $1\frac{1}{2}$ times as strong as if placed side by side.

In requesting estimates upon beam girders to carry the front walls of buildings, the following information should be given:

Distance between supports. Height and thickness of wall above girder. Number and size of windows in wall above girder, and if the floor joists or floor girders rest upon the wall over beam girder, a sketch of same should be sent, or the number of square feet of floors and roof carried by girder should be given, and the use to which building is to be put should be stated.

Figures No. 5 and 6 show sections of riveted girders for use where the loads or spans are too great to admit the use of rolled beams.

WEIGHT OF FLOORS AND THE LOAD UPON SAME.

The dead weight of a fire-proof floor will average for the arches, concrete, plastering and flooring, 70 lbs. per square foot.

The live weight, equal to a dense crowd of people, 80 lbs. per square foot, or a total for an office building, 150 lbs. per square foot.

The following loads are exclusive of weight of arches and beams:

Dense crowd of people.....	80	lbs. per square ft.
For floors of houses.....	50	" "
Theatres and churches.....	80	" "
Ball rooms.....	90	" "
Warehouses	250	" "
Factories	200 to 450	" "
Snow 30 inches deep.....	15	" "
Brick walls	112	lbs. per cubic ft.
Stone, Chicago Limestone dressed	160	" "

The dead weight of a wooden floor, including wood joists:

Double flooring and plastering will average 25 lbs. per square ft.
If deafened 35 " "

Stud partition of wood plastered each side 20 " "

In estimating the weight of a flat ceiling and roof it will be safe to assume the following:

Ceiling of wooden construction 15 lbs. per square ft.
Ceiling of iron construction 25 to 65 " "
Roof of wooden construction..... 45 " "
Roof of iron construction..... 25 to 100 " "

The weight of roof includes the wind pressure and snow.

• A full assortment of Rolled Iron Beams carried in stock.
Prompt delivery guaranteed.

DEARBORN FOUNDRY COMPANY.

GIRDERS.

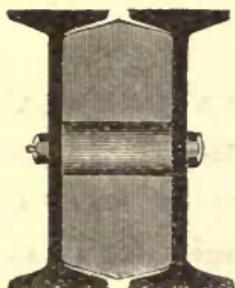


Fig. No. 1.

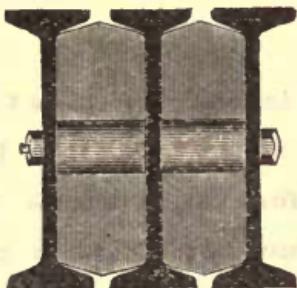


Fig. No. 2.

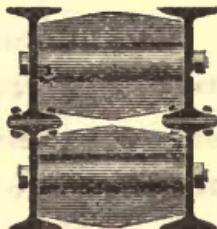


Fig. No. 3.

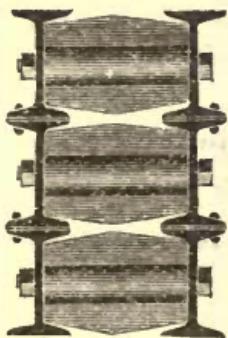


Fig. No. 4.



Fig. No. 5.

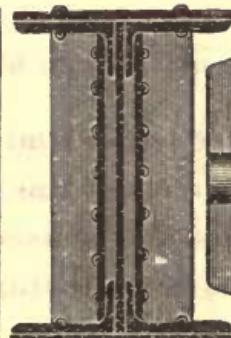
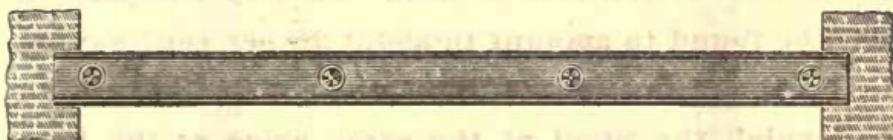


Fig. No. 6.

Cast
Separator.



Front View of Girder, for Sections see Fig. No. 1 and No. 2.



Front Elevation of Riveted Girders, for Sections see Fig.
No. 5 and No. 6.

DEARBORN FOUNDRY COMPANY.

STEEL BEAMS.

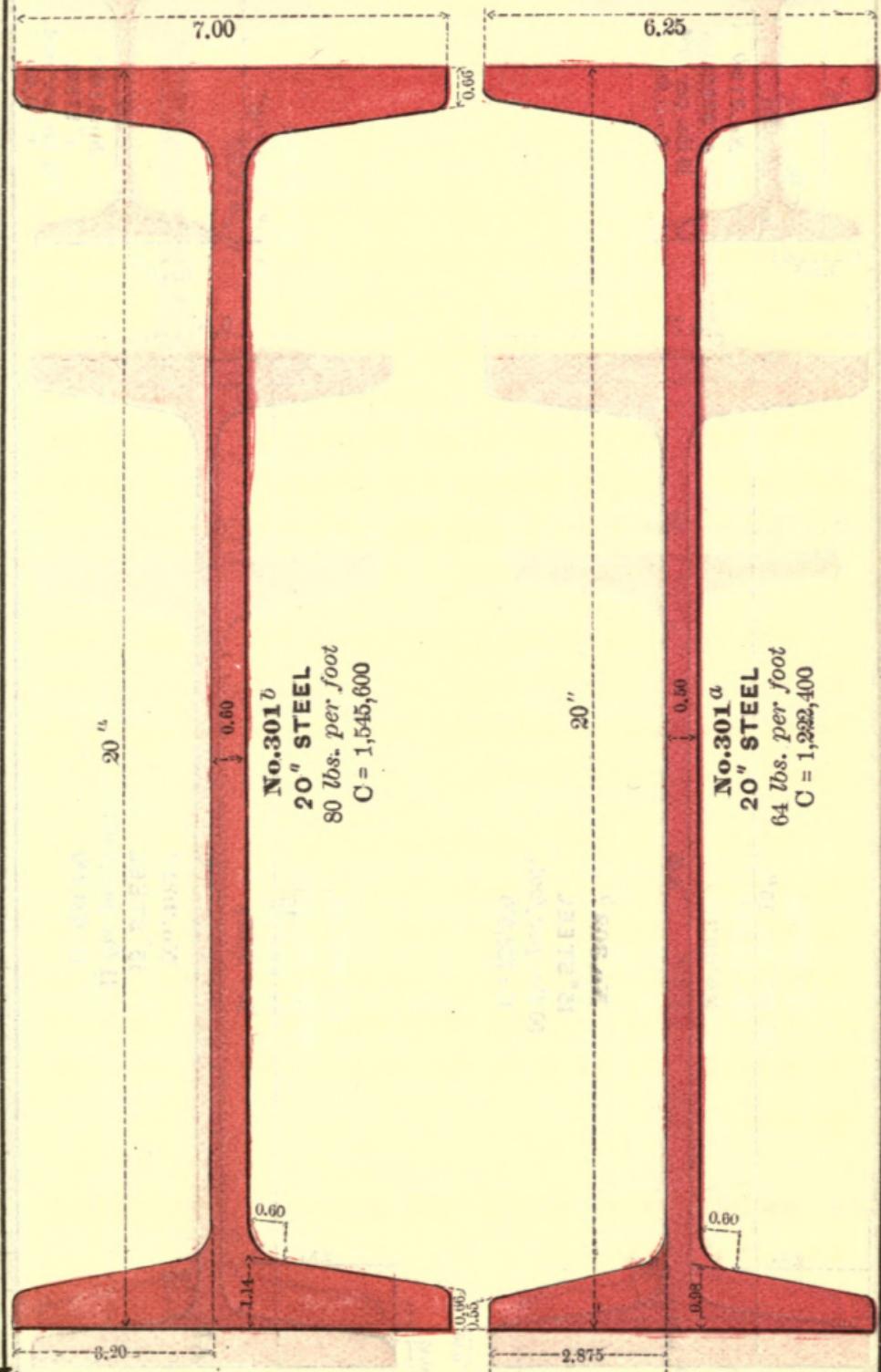
The following tables give the **SAFE, UNIFORMLY DISTRIBUTED STATIONARY LOADS** in **TONS** or **2,000 LBS.**, for the various spans of **STEEL BEAMS**, the same having been arranged by C. L. **STROBEL, C. E.** For convenience in using the book, all tables for Steel Beams, as well as the sections of Steel Beams, are printed in red, while the tables for Iron Beams are printed in black, and the Iron sections in blue.

The deflective limit is indicated in the following tables by a cross line, beyond which the spans and loads must not be used for Steel Beams intended to carry plastered ceilings.

We wish to call particular attention to the striking advantage which may often be gained by the use of **STEEL BEAMS** over iron. This by comparison will be found to amount to about 20 per cent. saving in favor of the **STEEL BEAMS**. We are prepared to furnish the Steel at the same price as the Iron Beams.

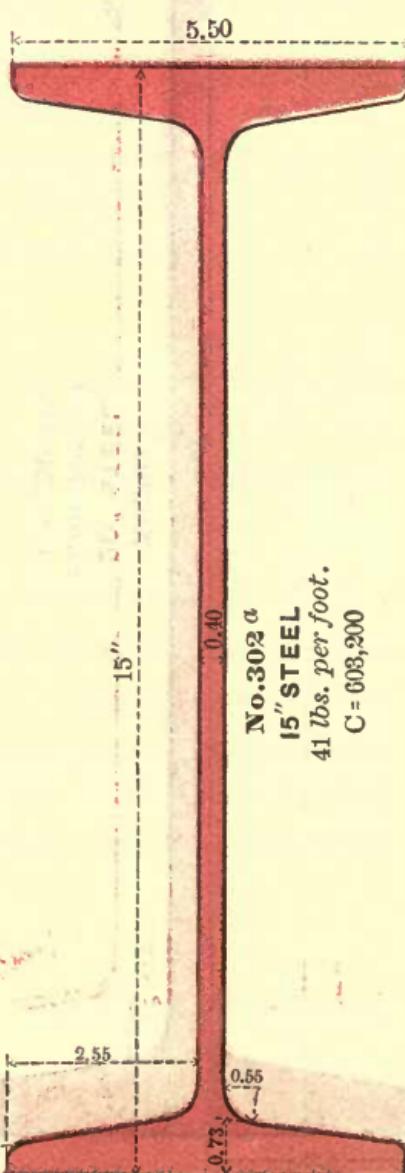
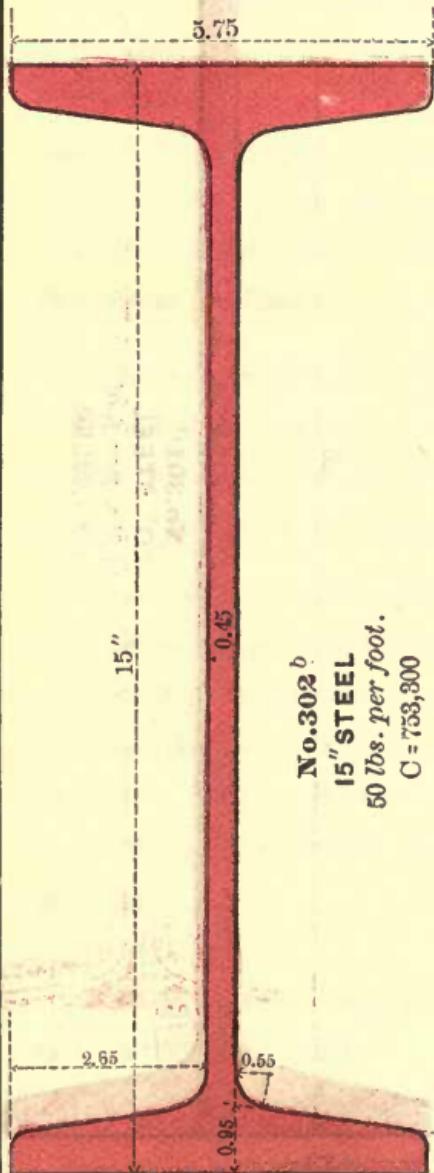
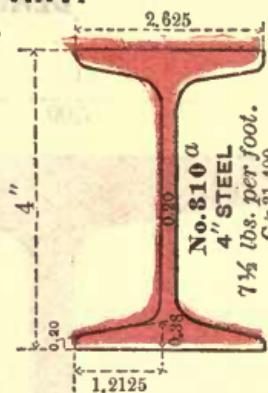
**ESTIMATES WILL BE GIVEN PROMPTLY
ON APPLICATION.**

DEARBORN FOUNDRY COMPANY.
Carnegie Steel Sections.



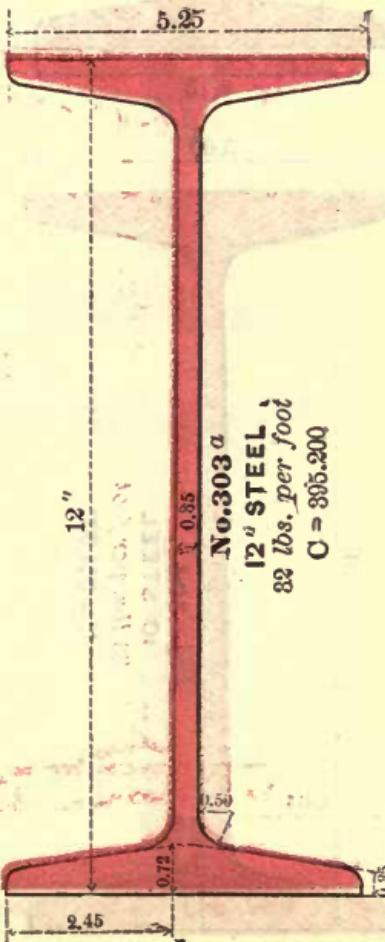
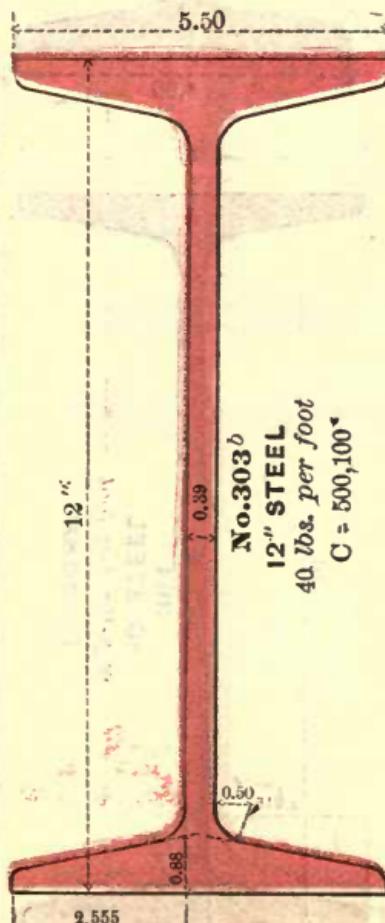
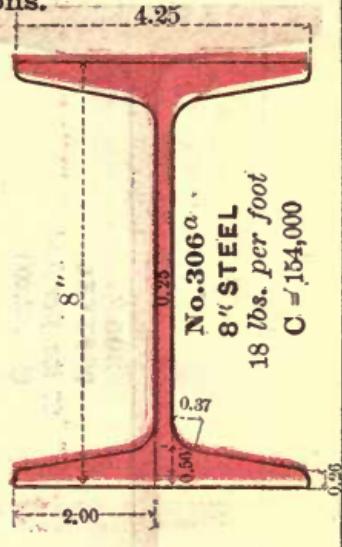
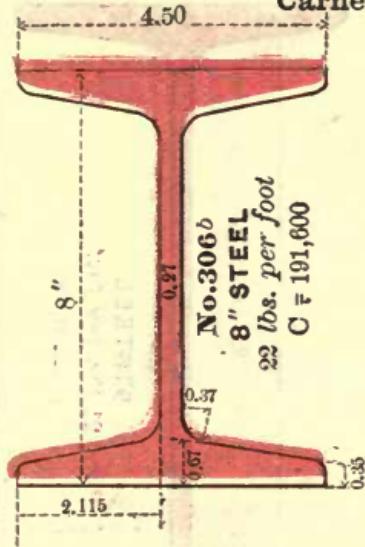
DEARBORN FOUNDRY COMPANY.

Carnegie Steel Sections.

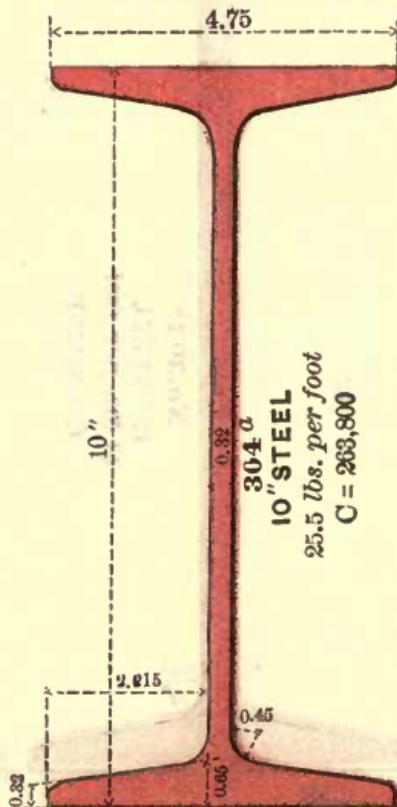
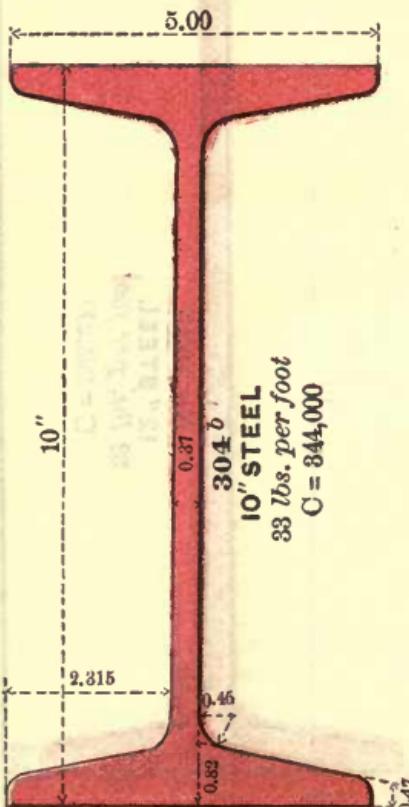
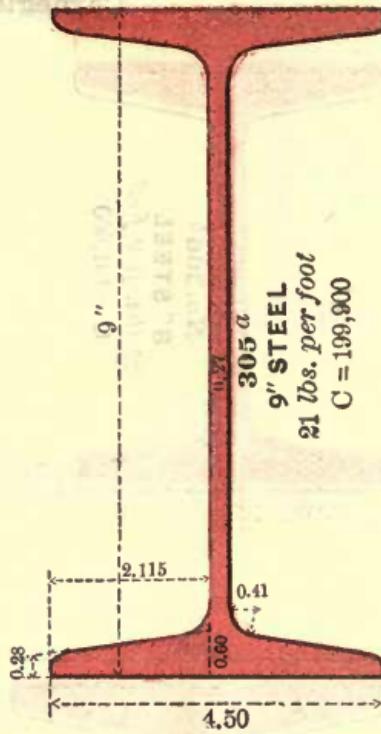
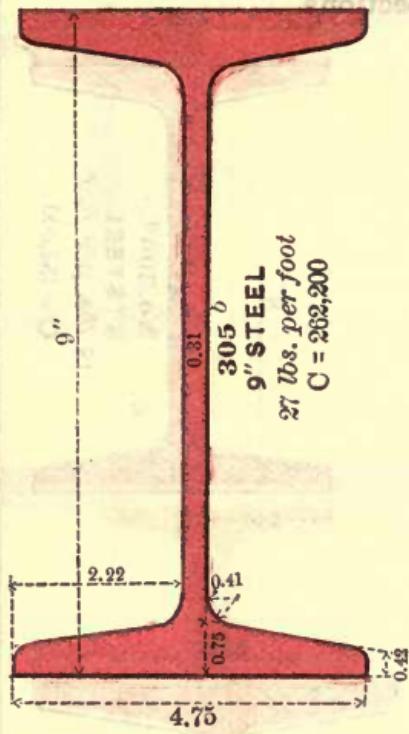


DEARBORN FOUNDRY COMPANY.

Carnegie Steel Sections.

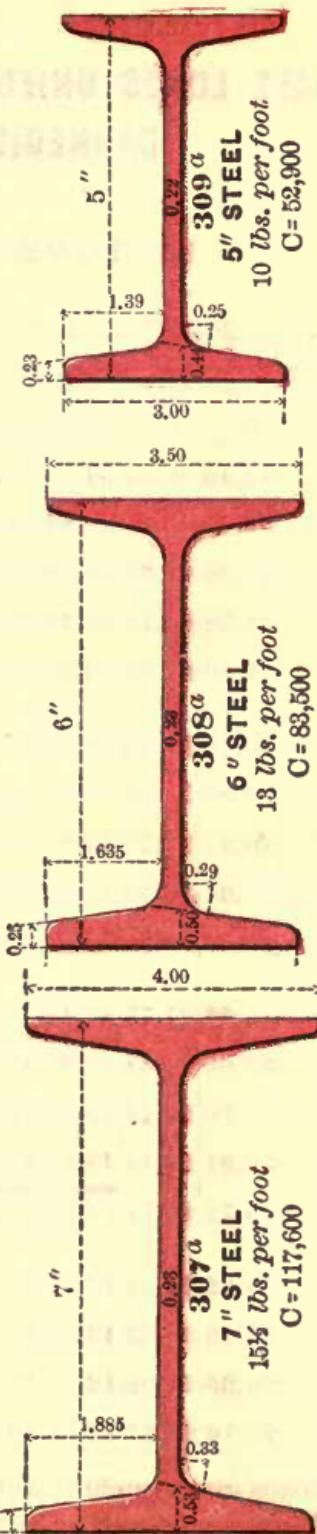
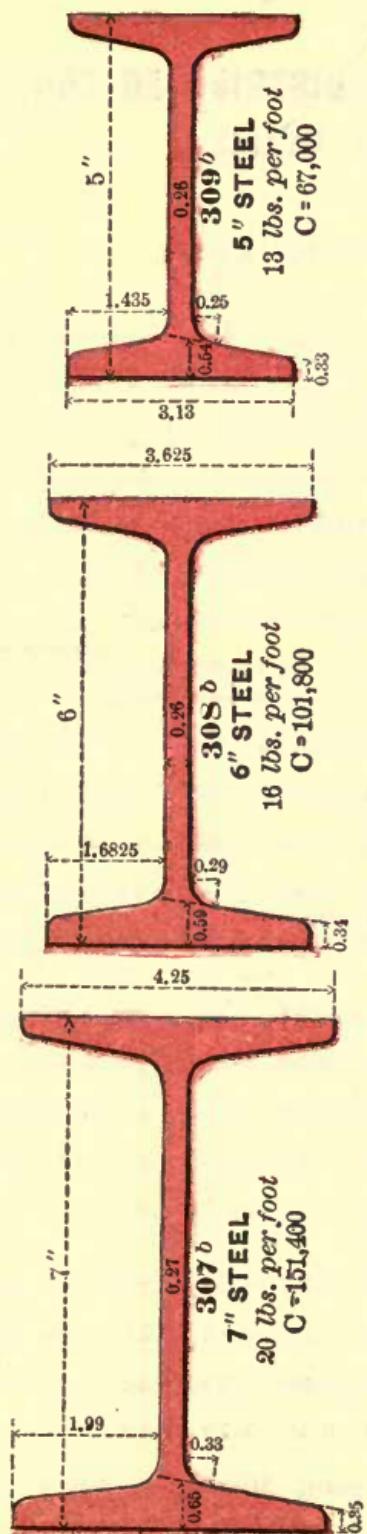


DEARBORN FOUNDRY COMPANY.
Carnegie Steel Sections.



DEARBORN FOUNDRY COMPANY.

Carnegie Steel Sections.



DEARBORN FOUNDRY COMPANY.

**SAFE LOADS UNIFORMLY DISTRIBUTED FOR
CARNEGIE STEEL BEAMS.**

IN TONS OF 2,000 LBS.

Distance between Supports in feet.	20" I		15" I		12" I		10" I		9" I	
	80 lbs.	64 lbs.	50 lbs.	41 lbs.	40 lbs.	32 lbs.	33 lbs.	25½ lbs.	27 lbs.	21 lbs.
12	64.40	50.93	31.38	25.15	20.84	16.44	14.33	10.99	10.92	8.33
13	59.45	47.02	28.97	23.22	19.24	15.17	13.23	10.15	10.08	7.69
14	55.20	43.66	26.90	21.56	17.87	14.09	12.29	9.42	9.36	7.14
15	51.52	40.75	25.10	20.12	16.68	13.15	11.47	8.79	8.74	6.66
16	48.30	38.20	23.53	18.87	15.63	12.33	10.75	8.24	8.19	6.25
17	45.46	35.95	22.15	17.76	14.71	11.60	10.12	7.74	7.71	5.88
18	42.98	33.96	20.92	16.77	13.90	10.96	9.56	7.33	7.28	5.55
19	40.67	32.17	19.82	15.89	13.17	10.38	9.05	6.94	6.90	5.26
20	38.64	30.56	18.83	15.09	12.51	9.86	8.60	6.60	6.56	5.00
21	36.80	28.87	17.93	14.37	11.91	9.39	8.19	6.28	6.24	4.76
22	35.13	27.78	17.12	13.72	11.37	8.97	7.82	6.00	5.96	4.54
23	33.60	26.58	16.37	13.12	10.88	8.58	7.48	5.74	5.70	4.35
24	32.20	25.47	15.69	12.58	10.42	8.22	7.17	5.50	5.46	4.17
25	30.91	24.45	15.06	12.07	10.01	7.89	6.88	5.28	5.24	4.00
26	29.72	23.51	14.48	11.61	9.62	7.59	6.62	5.07	5.04	3.84
27	28.62	22.64	13.95	11.18	9.27	7.31	6.37	4.89	4.86	3.70
28	27.60	21.83	13.45	10.78	8.93	7.04	6.14	4.71	4.68	3.57
29	26.65	21.08	12.98	10.41	8.63	6.80	5.93	4.55	4.52	3.45
30	25.76	20.37	12.55	10.06	8.34	6.58	5.73	4.40	4.37	3.33

Safe loads given, include weight of beam. Maximum fibre strain, 16,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SAFE LOADS UNIFORMLY DISTRIBUTED FOR
CARNEGIE STEEL BEAMS.**

IN TONS OF 2,000 LBS.

Distance between Supports in feet.	8" I		7" I		6" I		5" I		4" I	
	22 lbs.	18 lbs.	20 lbs.	15½ lbs.	16 lbs.	13 lbs.	13 lbs.	10 lbs.	10 lbs.	7½ lbs.
5	19.16	15.40	15.14	11.76	10.18	8.35	6.70	5.29	4.12	3.14
6	15.97	12.83	12.62	9.80	8.48	6.96	5.58	4.41	3.43	2.62
7	13.69	11.00	10.81	8.40	7.27	5.96	4.79	3.78	2.94	2.24
8	11.97	9.63	9.46	7.35	6.36	5.22	4.19	3.31	2.58	1.96
9	10.64	8.56	8.41	6.53	5.66	4.64	3.72	2.94	3.29	1.74
10	9.58	7.70	7.57	5.88	5.09	4.18	3.35	2.65	2.06	1.57
11	8.71	7.00	6.88	5.35	4.63	3.80	3.05	2.40	1.87	1.43
12	7.98	6.42	6.31	4.90	4.24	3.48	2.79	2.20	1.72	1.31
13	7.37	5.92	5.82	4.52	3.92	3.21	2.58	2.03	1.58	1.21
14	6.84	5.50	5.41	4.20	3.64	2.98	2.39	1.89	1.47	1.12
15	6.39	5.13	5.05	3.92	3.39	2.78	2.23	1.76	1.37	1.05
16	5.99	4.81	4.73	3.68	3.18	2.61	2.09	1.65	1.29	0.98
17	5.64	4.53	4.45	3.46	2.99	2.46	1.97	1.56	1.21	0.92
18	5.32	4.28	4.21	3.27	2.83	2.32	1.86	1.47	1.14	0.87
19	5.04	4.05	3.98	3.09	2.68	2.20	1.76	1.39	1.08	0.83
20	4.79	3.85	3.79	2.94	2.55	2.09	1.68	1.32	1.03	0.79
21	4.56	3.67	3.60	2.80	2.42	1.99	1.60	1.26	0.98	0.75

Safe loads given, include weight of beam. Maximum fibre strain,
16,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM
LOAD OF 100 LBS. PER SQUARE FOOT.**

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	20" I		15" I		12" I		10" I		9" I	
	80 lbs.	64 lbs.	50 lbs.	41 lbs.	40 lbs.	32 lbs.	33 lbs.	25½ lbs.	27 lbs.	21 lbs.
12	107.3	84.9	52.3	41.9	34.7	27.4	23.9	18.3	18.2	13.9
13	91.5	72.3	44.6	35.7	29.6	23.3	20.4	15.6	15.5	11.8
14	78.8	62.4	38.4	30.8	25.5	20.1	17.6	13.5	13.4	10.2
15	68.7	54.3	33.5	26.8	22.2	17.5	15.3	11.7	11.7	8.9
16	60.4	47.7	29.4	23.6	19.5	15.4	13.4	10.3	10.2	7.8
17	53.5	42.3	26.1	20.9	17.3	13.7	11.9	9.1	9.1	6.9
18	47.7	37.7	23.3	18.6	15.4	12.2	10.6	8.1	8.1	6.2
19	42.8	33.9	20.9	16.7	13.9	10.9	9.5	7.3	7.3	5.5
20	38.6	30.6	18.9	15.1	12.5	9.9	8.6	6.6	6.6	5.0
21	35.0	27.7	17.1	13.7	11.3	8.9	7.8	6.0	6.0	4.5
22	31.9	25.3	15.6	12.5	10.3	8.2	7.1	5.5	5.4	4.1
23	29.2	23.1	14.2	11.4	9.5	7.5	6.5	5.0	5.0	3.8
24	26.8	21.2	13.1	10.5	8.7	6.9	6.0	4.6	4.6	3.5
25	24.7	19.6	12.1	9.7	8.0	6.3	5.5	4.2	4.2	3.2
26	22.9	18.1	11.1	8.9	7.4	5.8	5.1	3.9	3.9	3.0
27	21.2	16.8	10.3	8.3	6.9	5.4	4.7	3.6	3.6	2.7
28	19.7	15.6	9.6	7.7	6.4	5.0	4.4	3.4	3.3	2.6
29	18.4	14.5	9.0	7.2	5.9	4.7	4.1	3.1	3.1	2.4
30	17.2	13.6	8.4	6.7	5.6	4.4	3.8	2.9	2.9	2.2

For load of 200 lbs. per square foot, divide the spacing given by (2).
Maximum fibre strain, 16,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM
LOAD OF 100 LBS. PER SQUARE FOOT.**

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I		7" I		6" I		5" I		4" I	
	22 lbs.	18 lbs.	20 lbs.	15½ lbs.	16 lbs.	13 lbs.	13 lbs.	10 lbs.	10 lbs.	7½ lbs.
5	76.6	61.6	60.6	47.0	40.7	38.4	26.8	21.2	16.5	12.6
6	53.2	42.8	42.1	32.7	28.3	23.2	18.6	14.7	11.4	8.7
7	39.1	31.4	30.9	24.0	20.8	17.9	13.7	10.8	8.4	6.4
8	29.9	24.1	23.7	18.4	15.9	13.0	10.5	8.8	6.4	4.9
9	23.7	19.0	18.7	14.5	12.6	10.8	8.3	6.5	5.1	3.9
10	19.2	15.4	15.1	11.8	10.2	8.4	6.7	5.3	4.1	3.1
11	15.8	12.7	12.5	9.7	8.4	6.9	5.5	4.4	3.4	2.6
12	13.8	10.7	10.5	8.2	7.1	5.8	4.7	3.7	2.9	2.2
13	11.3	9.1	9.0	7.0	6.0	4.9	4.0	3.1	2.4	1.9
14	9.8	7.9	7.7	6.0	5.2	4.3	3.4	2.7	2.1	1.6
15	8.5	6.8	6.7	5.2	4.5	3.7	3.0	2.4	1.8	1.4
16	7.5	6.0	5.9	4.6	4.0	3.3	2.6	2.1	1.6	1.2
17	6.6	5.3	5.2	4.1	3.5	2.9	2.3	1.8	1.4	1.1
18	5.9	4.8	4.7	3.6	3.1	2.6	2.1	1.6	1.3	1.0
19	5.3	4.3	4.2	3.3	2.8	2.3	1.9	1.5	1.1	.....
20	4.8	3.9	3.8	2.9	2.5	2.1	1.7	1.3	1.0	.....
21	4.3	3.5	3.4	2.7	2.3	1.9	1.5	1.2	.....	.....
22	4.0	3.2	3.1	2.4	2.1	1.7	1.4	1.1	.....	.....

For load of 200 lbs. per square foot, divide the spacing given by (2).
Maximum fibre strain, 16,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM
LOAD OF 125 LBS. PER SQUARE FOOT.**

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	20" I		15" I		12" I		10" I		9" I	
	80 lbs.	64 lbs.	50 lbs.	41 lbs.	40 lbs.	32 lbs.	33 lbs.	25½ lbs.	27 lbs.	21 lbs.
12	85.9	67.9	41.8	33.5	27.8	21.9	19.1	14.6	14.6	11.1
13	73.2	57.8	35.6	28.6	23.7	18.6	16.3	12.5	12.4	9.5
14	63.1	49.9	30.7	24.6	20.4	16.1	14.0	10.8	10.7	8.2
15	55.0	43.5	26.8	21.4	17.8	14.0	12.2	9.4	9.3	7.1
16	48.3	38.2	23.5	18.8	15.6	12.3	10.8	8.2	8.2	6.2
17	42.8	33.8	20.9	16.7	13.8	10.9	9.5	7.3	7.3	5.5
18	38.2	30.2	18.6	14.9	12.4	9.8	8.5	6.5	6.5	4.9
19	34.2	27.1	16.7	13.4	11.1	8.7	7.6	5.8	5.8	4.4
20	30.9	24.4	15.1	12.1	10.0	7.9	6.9	5.3	5.2	4.0
21	28.0	22.2	13.7	10.9	9.1	7.2	6.2	4.8	4.8	3.6
22	25.5	20.2	12.5	10.0	8.3	6.6	5.7	4.4	4.3	3.3
23	23.4	18.5	11.4	9.1	7.6	6.0	5.2	4.0	4.0	3.0
24	21.4	17.0	10.5	8.4	7.0	5.5	4.8	3.7	3.6	2.8
25	19.8	15.6	9.6	7.7	6.4	5.0	4.4	3.4	3.4	2.6
26	18.3	14.5	8.9	7.1	5.9	4.7	4.1	3.1	3.1	2.4
27	17.0	13.4	8.3	6.6	5.5	4.3	3.8	2.9	2.9	2.2
28	15.8	12.5	7.7	6.2	5.1	4.0	3.5	2.7	2.7	2.0
29	14.7	11.6	7.2	5.7	4.8	3.8	3.3	2.5	2.5	1.9
30	13.7	10.9	6.7	5.4	4.5	3.5	3.0	2.3	2.3	1.8

For load of 250 lbs. per square foot, divide the spacing given by (2).
Maximum fibre strain, 16,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM
LOAD OF 125 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I		7" I		6" I		5" I		4" I	
	22 lbs.	18 lbs.	20 lbs.	15½ lbs.	16 lbs.	13 lbs.	13 lbs.	10 lbs.	10 lbs.	7½ lbs.
5	61.3	49.3	48.5	37.6	32.6	26.7	21.4	16.9	13.2	10.0
6	42.6	34.2	33.6	26.1	22.6	18.6	14.9	11.8	9.2	7.0
7	31.3	25.1	24.7	19.2	16.6	13.6	10.9	8.6	6.7	5.1
8	23.9	19.2	18.9	14.7	12.7	10.4	8.4	6.6	5.2	3.9
9	19.0	15.2	15.0	11.6	10.1	8.2	6.6	5.2	4.1	3.1
10	15.3	12.3	12.1	9.4	8.1	6.7	5.4	4.2	3.3	2.5
11	12.7	10.2	10.0	7.8	6.7	5.5	4.4	3.5	2.7	2.1
12	10.6	8.6	8.4	6.6	5.7	4.6	3.7	2.9	2.3	1.8
13	9.1	7.2	7.2	5.6	4.8	4.0	3.2	2.5	2.0	1.5
14	7.8	6.3	6.2	4.8	4.2	3.4	2.7	2.2	1.7	1.3
15	6.8	5.5	5.4	4.2	3.6	3.0	2.4	1.9	1.5	1.1
16	6.0	4.8	4.7	3.7	3.2	2.6	2.1	1.7	1.3	1.0
17	5.3	4.3	4.2	3.3	2.8	2.3	1.9	1.5	1.1	.....
18	4.7	3.8	3.8	2.9	2.5	2.1	1.7	1.3	1.0	.....
19	4.2	3.4	3.4	2.6	2.2	1.8	1.5	1.2	.....	.....
20	3.8	3.1	3.0	2.4	2.0	1.7	1.3	1.1	.....	.....
21	3.5	2.8	2.7	2.2	1.8	1.5	1.2	1.0	.....	.....
22	3.2	2.6	2.5	1.9	1.7	1.4	1.1	.....	.....	.....

For load of 250 lbs. per square foot, divide the spacing given by (2).
Maximum fibre strain, 16,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM
LOAD OF 150 LBS. PER SQUARE FOOT.**

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	20" I		15" I		12" I		10" I		9" I	
	80 lbs.	64 lbs.	50 lbs.	41 lbs.	40 lbs.	32 lbs.	33 lbs.	25½ lbs.	27 lbs.	21 lbs.
12	71.6	56.6	34.9	27.9	23.2	18.3	15.9	12.2	12.1	9.3
13	61.0	48.2	29.7	23.8	19.7	15.6	13.6	10.4	10.3	7.9
14	52.6	41.6	25.6	20.5	17.0	13.4	11.7	9.0	8.9	6.8
15	45.8	36.2	22.3	17.9	14.8	11.7	10.2	7.8	7.8	5.9
16	40.3	31.8	19.6	15.7	13.0	10.3	9.0	6.9	6.8	5.2
17	35.7	28.2	17.4	13.9	11.5	9.1	7.9	6.1	6.0	4.6
18	31.8	25.1	15.5	12.4	10.3	8.1	7.1	5.4	5.4	4.1
19	28.5	22.6	13.9	11.1	9.2	7.3	6.4	4.9	4.8	3.7
20	25.8	20.4	12.6	10.0	8.3	6.6	5.7	4.4	4.4	3.3
21	23.4	18.5	11.4	9.1	7.6	6.0	5.2	4.0	4.0	3.0
22	21.3	16.8	10.4	8.3	6.9	5.5	4.7	3.7	3.6	2.7
23	19.5	15.4	9.5	7.3	6.3	5.0	4.3	3.3	3.3	2.5
24	17.9	14.1	8.7	7.0	5.8	4.6	4.0	3.1	3.0	2.3
25	16.5	13.0	8.0	6.4	5.3	4.2	3.7	2.8	2.8	2.1
26	15.3	12.1	7.4	5.9	4.9	3.9	3.4	2.6	2.6	2.0
27	14.1	11.2	6.9	5.5	4.6	3.6	3.1	2.4	2.4	1.8
28	13.1	10.4	6.4	5.1	4.3	3.4	2.9	2.2	2.2	1.7
29	12.3	9.7	6.0	4.8	4.0	3.1	2.7	2.1	2.1	1.6
30	11.4	9.1	5.6	4.5	3.7	2.9	2.5	2.0	1.9	1.5

For load of 300 lbs. per square foot, divide the spacing given by (2).
Maximum fibre strain, 16,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM
LOAD OF 150 LBS. PER SQUARE FOOT.**

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I		7" I		6" I		5" I		4" I	
	22 lbs.	18 lbs.	20 lbs.	15½ lbs.	16 lbs.	13 lbs.	13 lbs.	10 lbs.	10 lbs.	7½ lbs.
5	51.1	41.1	40.4	31.4	27.1	22.3	17.9	14.1	11.0	8.4
6	35.5	28.5	28.0	21.8	18.9	15.5	12.4	9.8	7.6	5.8
7	26.1	21.0	20.6	16.0	13.9	11.4	9.1	7.2	5.6	4.3
8	20.0	16.0	15.8	12.3	10.6	8.7	7.0	5.5	4.3	3.3
9	15.8	12.7	12.5	9.7	8.4	6.9	5.5	4.4	3.4	2.6
10	12.8	10.3	10.1	7.8	6.8	5.6	4.5	3.5	2.8	2.1
11	10.6	8.5	8.3	6.5	5.6	4.6	3.7	2.9	2.3	1.7
12	8.9	7.1	7.0	5.5	4.7	3.9	3.1	2.4	1.9	1.5
13	7.6	6.1	6.0	4.6	4.0	3.3	2.6	2.1	1.6	1.2
14	6.5	5.2	5.2	4.0	3.5	2.8	2.3	1.8	1.4	1.1
15	5.7	4.6	4.5	3.5	3.0	2.5	2.0	1.6	1.2	0.9
16	5.0	4.0	3.9	3.1	2.7	2.2	1.7	1.4	1.1	.....
17	4.4	3.6	3.5	2.7	2.3	1.9	1.5	1.2	1.0	.....
18	3.9	3.2	3.1	2.4	2.1	1.7	1.4	1.1	.....	.....
19	3.5	2.8	2.8	2.2	1.9	1.5	1.2	1.0	.....	.....
20	3.2	2.6	2.5	2.0	1.7	1.4	1.1	.....	.....	.....
21	2.9	2.3	2.3	1.8	1.5	1.3	1.0	.....	.....	.....
22	2.7	2.1	2.1	1.6	1.4	1.1	.....	.....	.....	.....

For load of 300 lbs. per square foot, divide the spacing given by (2).
Maximum fibre strain, 16,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM
LOAD OF 175 LBS. PER SQUARE FOOT.**

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	20" I		15" I		12" I		10" I		9" I	
	80 lbs.	64 lbs.	50 lbs.	41 lbs.	40 lbs.	32 lbs.	33 lbs.	25½ lbs.	27 lbs.	21 lbs.
12	61.3	48.5	29.9	23.9	19.8	15.7	13.7	10.5	10.4	7.9
13	52.3	41.3	25.5	20.4	16.9	13.3	11.6	8.9	8.9	6.8
14	45.0	35.6	22.0	17.6	14.6	11.5	10.0	7.7	7.6	5.8
15	39.3	31.0	19.1	15.3	12.7	10.0	8.7	6.7	6.7	5.1
16	34.5	27.3	16.8	13.5	11.2	8.8	7.7	5.9	5.9	4.5
17	30.6	24.2	14.9	11.9	9.9	7.8	6.8	5.2	5.2	3.9
18	27.3	21.6	13.3	10.6	8.8	7.6	6.1	4.7	4.6	3.5
19	24.5	19.3	11.9	9.5	7.9	6.2	5.4	4.2	4.1	3.2
20	22.1	17.5	10.8	8.6	7.1	5.6	4.9	3.8	3.7	2.9
21	20.0	15.8	9.8	7.8	6.5	5.1	4.5	3.4	3.4	2.6
22	18.2	14.4	8.9	7.1	5.9	4.7	4.1	3.1	3.1	2.3
23	16.7	13.2	8.2	6.5	5.4	4.3	3.7	2.9	2.8	2.2
24	15.3	12.1	7.5	6.0	5.0	3.9	3.4	2.6	2.6	2.0
25	14.1	11.2	6.9	5.5	4.6	3.6	3.1	2.4	2.4	1.8
26	13.1	10.3	6.4	5.1	4.2	3.3	2.9	2.2	2.2	1.7
27	12.1	9.6	5.9	4.7	3.9	3.1	2.7	2.1	2.1	1.6
28	11.3	8.9	5.5	4.4	3.6	2.9	2.5	1.9	1.9	1.5
29	10.5	8.3	5.1	4.1	3.4	2.7	2.3	1.8	1.8	1.4
30	9.8	7.8	4.8	3.8	3.2	2.5	2.2	1.7	1.7	1.3

For load of 350 lbs. per square foot, divide the spacing given by (2).
Maximum fibre strain, 16,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM
LOAD OF 175 LBS. PER SQUARE FOOT.**

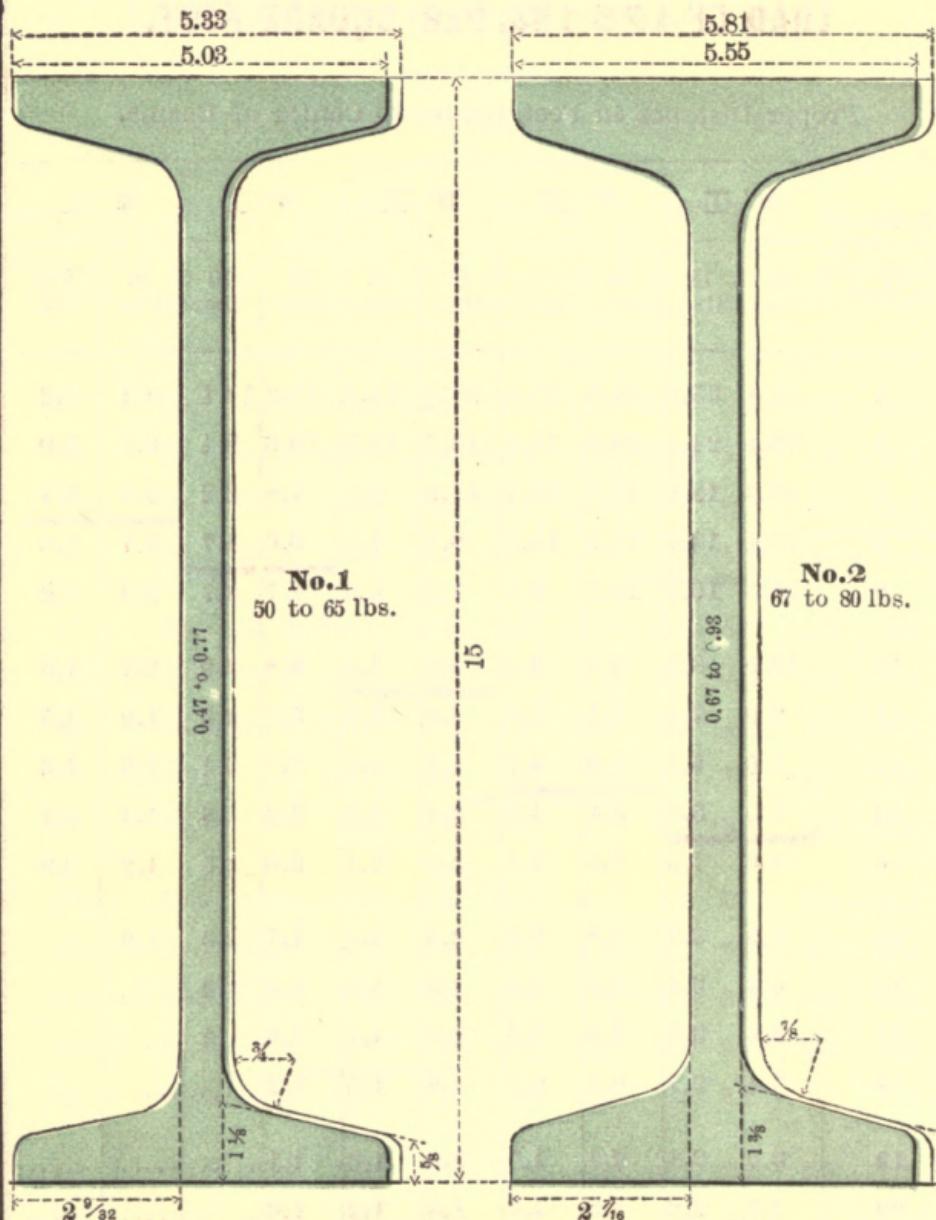
Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I		7" I		6" I		5" I		4" I	
	22 lbs.	18 lbs.	20 lbs.	15½ lbs.	16 lbs.	13 lbs.	13 lbs.	10 lbs.	10 lbs.	7½ lbs.
5	43.8	35.2	34.6	26.9	23.3	19.1	15.3	12.1	9.4	7.2
6	30.4	24.4	24.0	18.7	16.2	13.3	10.6	8.4	6.5	5.0
7	22.3	18.0	17.7	13.7	11.9	9.7	7.8	6.2	4.8	3.7
8	17.1	13.7	13.5	10.5	9.1	7.5	6.0	4.7	3.7	2.8
9	13.5	10.9	10.7	8.3	7.2	5.9	4.7	3.7	2.9	2.2
10	10.9	8.8	8.7	6.7	5.8	4.8	3.8	3.0	2.4	1.8
11	9.0	7.3	7.1	5.6	4.8	3.9	3.2	2.5	1.9	1.5
12	7.6	6.1	6.0	4.7	4.1	3.3	2.7	2.1	1.6	1.3
13	6.5	5.2	5.1	4.0	3.4	2.8	2.3	1.8	1.4	1.1
14	5.6	4.5	4.4	3.4	3.0	2.4	2.0	1.5	1.2	0.9
15	4.9	3.9	3.8	3.0	2.6	2.1	1.7	1.3	1.0	.....
16	4.3	3.4	3.4	2.6	2.3	1.9	1.5	1.2	.....	.....
17	3.8	3.0	3.0	2.3	2.0	1.7	1.3	1.0	.....	.....
18	3.4	2.7	2.7	2.1	1.8	1.5	1.2	.....	.....	.....
19	3.0	2.4	2.4	1.9	1.6	1.3	1.1	.....	.....	.....
20	2.7	2.2	2.2	1.7	1.5	1.2	1.0	.....	.....	.....
21	2.5	2.0	2.0	1.5	1.3	1.1	.....	.....	.....	.....
22	2.3	1.8	1.8	1.4	1.2	1.0	.....	.....	.....	.....

For load of 350 lbs. per square foot, divide the spacing given by (2).
Maximum fibre strain, 16,000 lbs. per square inch.

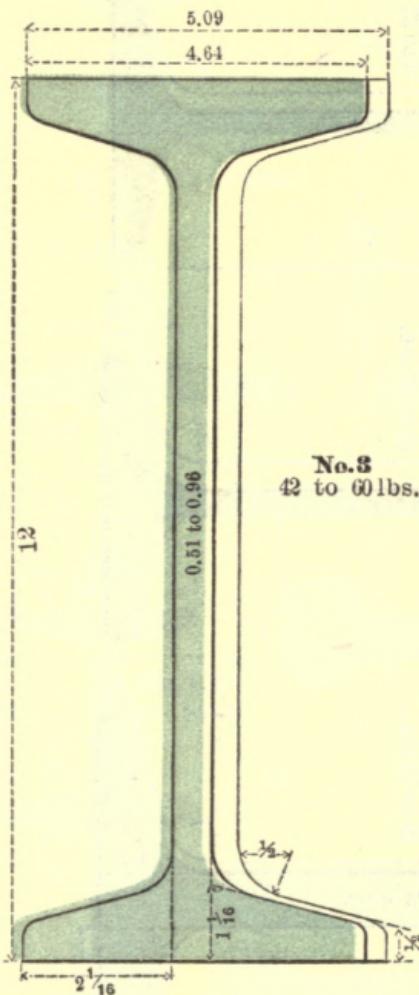
DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

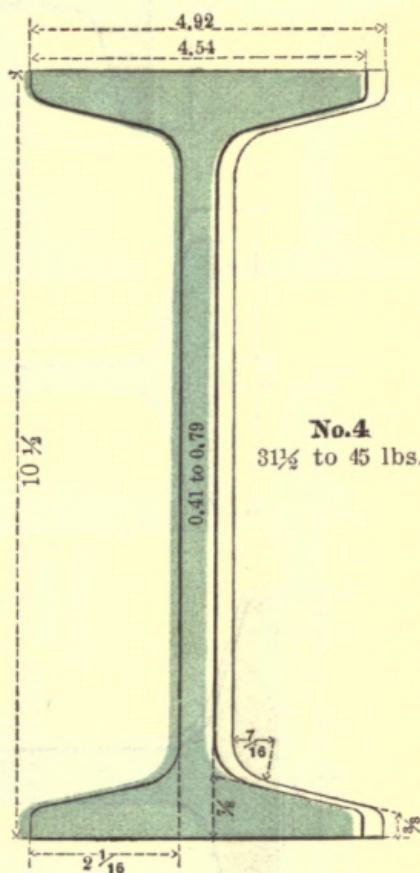


DEARBORN FOUNDRY COMPANY.

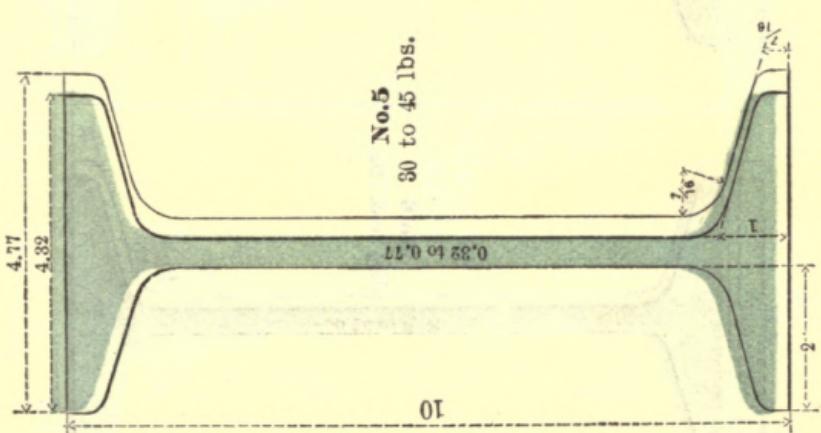
Carnegie Iron Sections.



No.3
42 to 60 lbs.



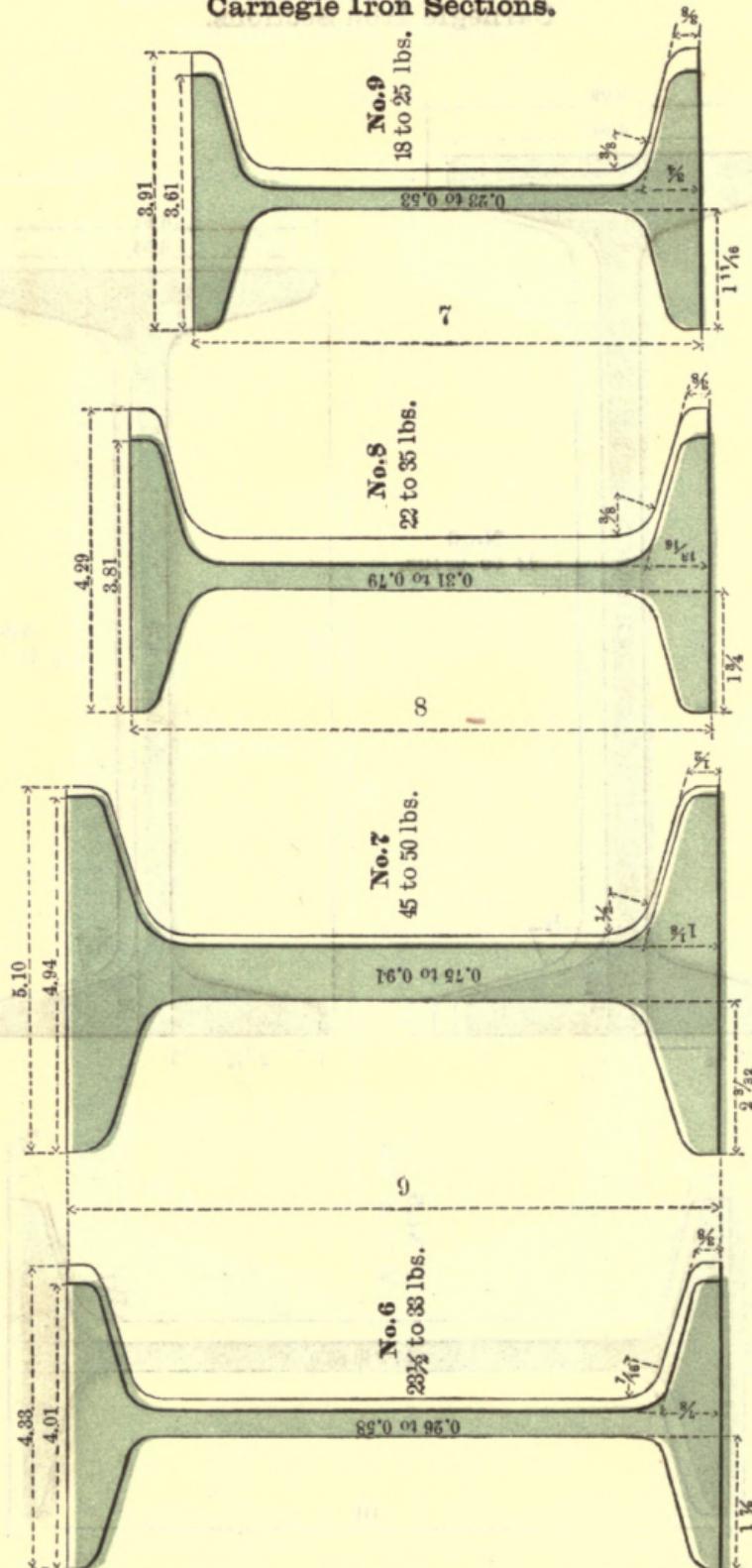
No.4
31 $\frac{1}{2}$ to 45 lbs.



No.5
30 to 45 lbs.

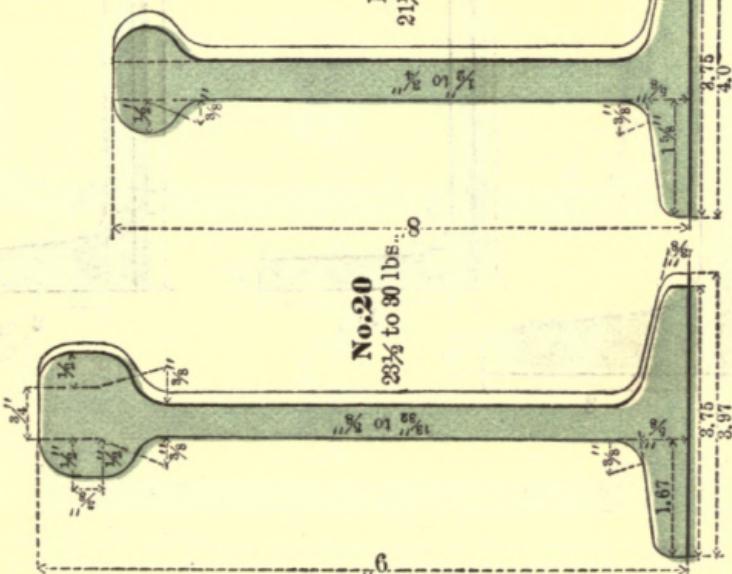
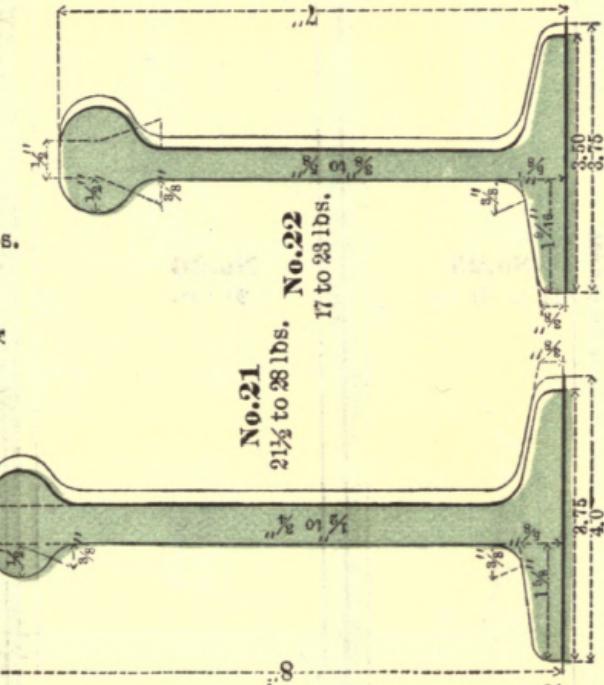
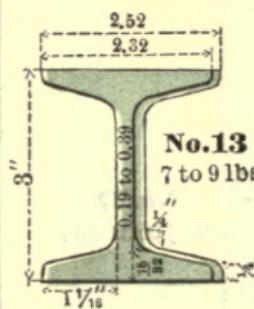
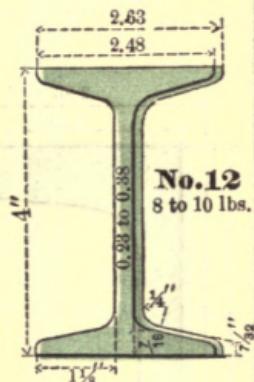
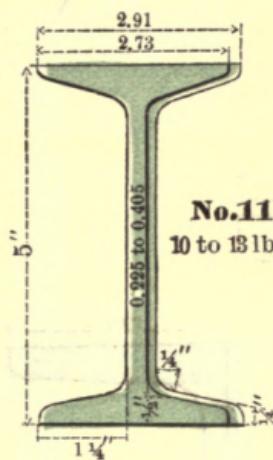
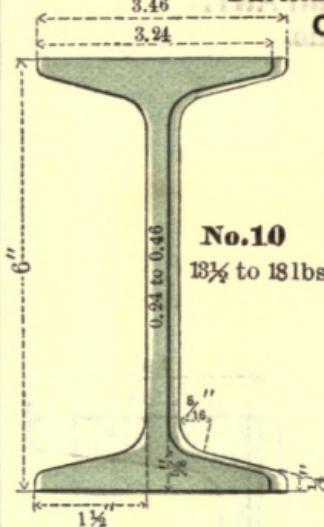
DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

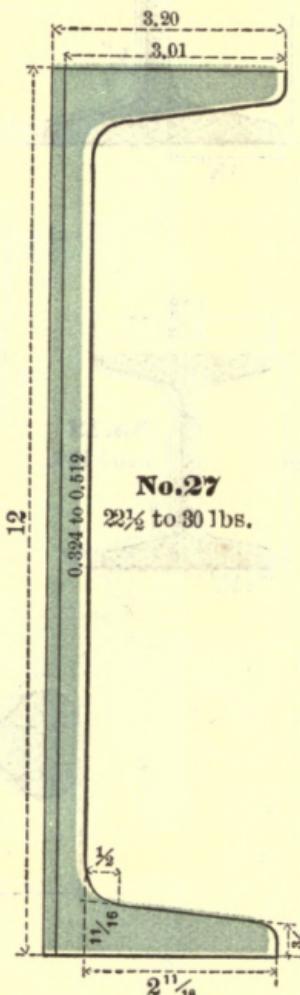
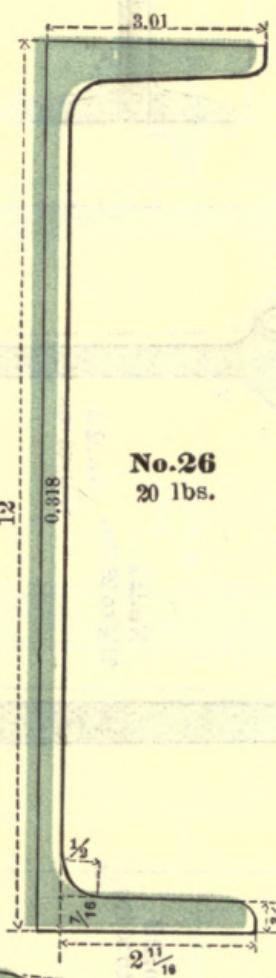
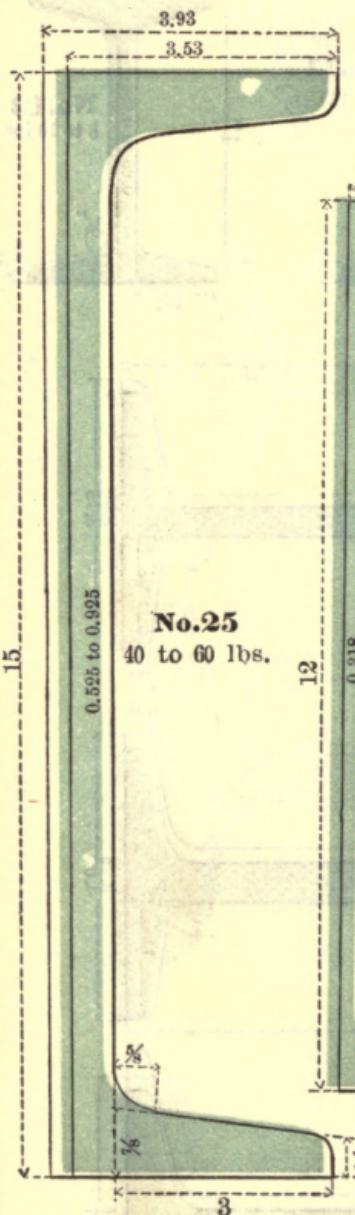


DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

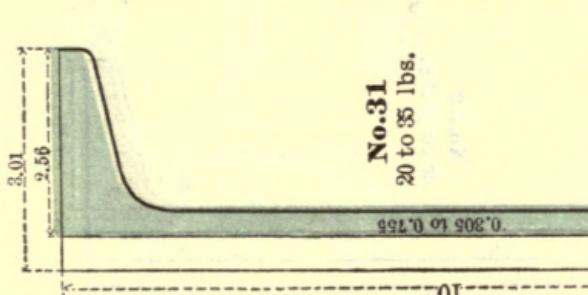
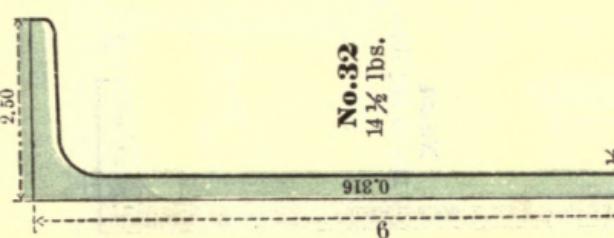
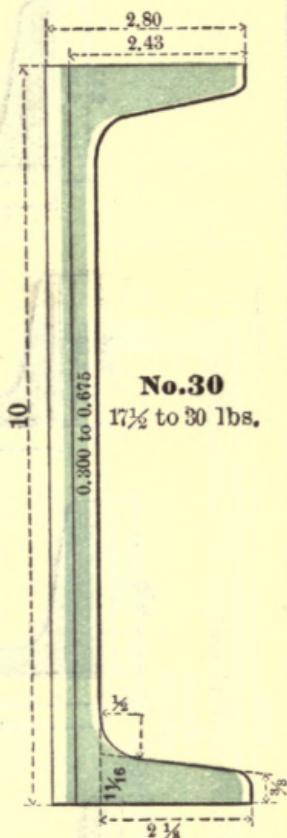
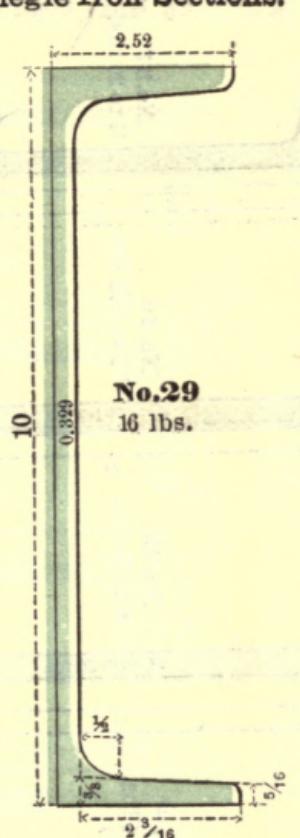
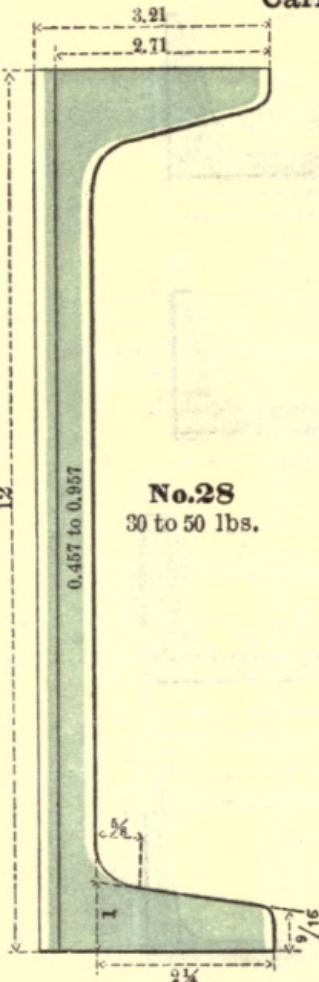


DEARBORN FOUNDRY COMPANY.
Carnegie Iron Sections.



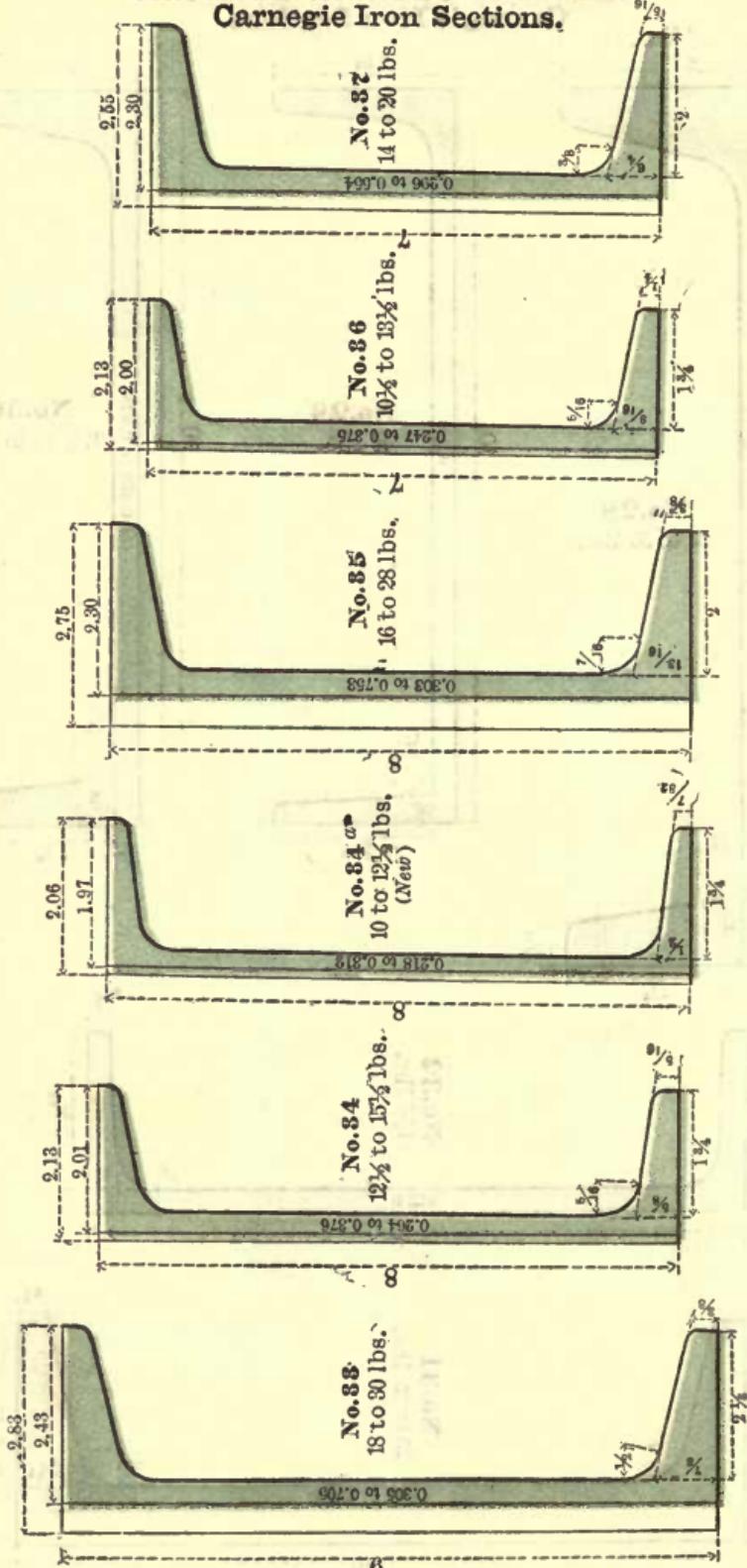
DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.



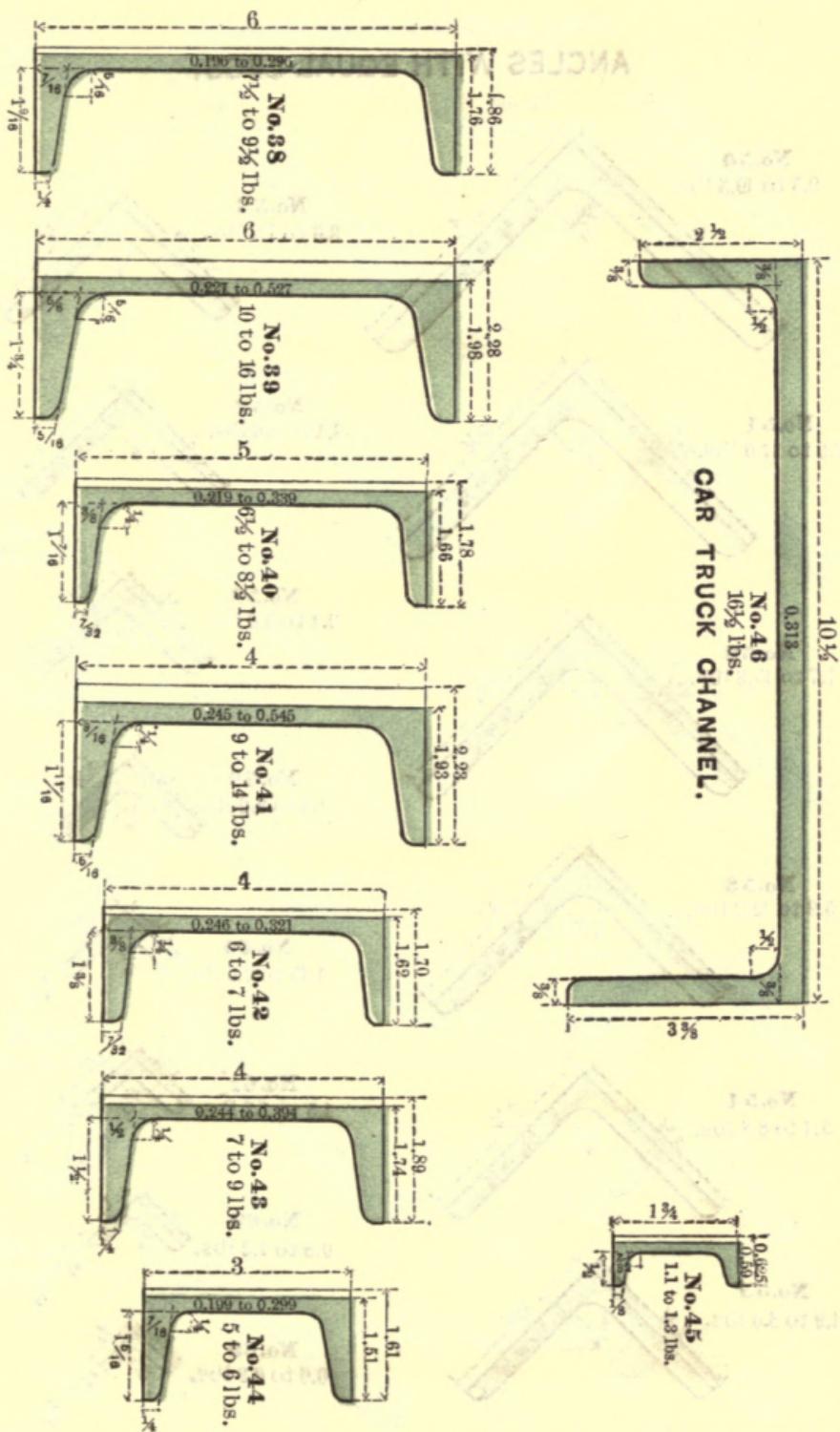
DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.



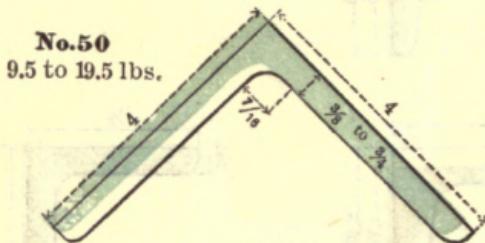
DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

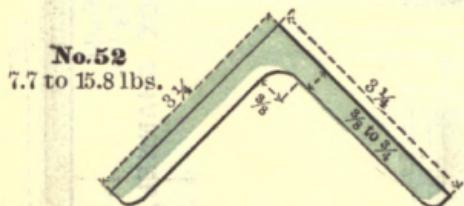


DEARBORN FOUNDRY COMPANY.
Carnegie Iron Sections.

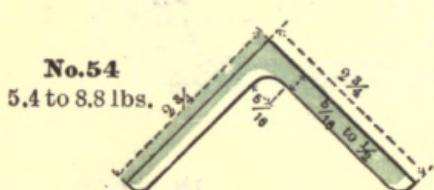
ANGLES WITH EQUAL LEGS.



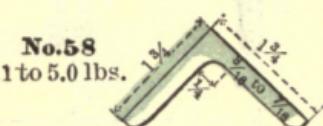
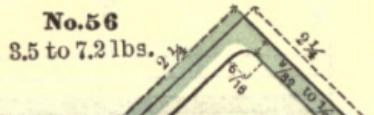
No.51
8.0 to 17.0 lbs. $3\frac{1}{2}$
 $5\frac{1}{2}$



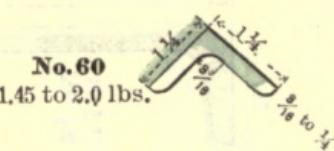
No.58
5.9 to 12.2 lbs.



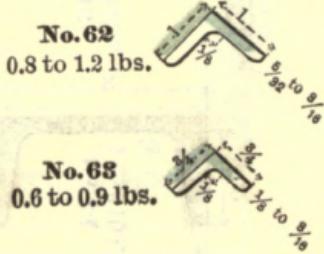
A trapezoidal diagram representing the weight distribution for a No. 55 pulley. The top horizontal side is labeled "4.9 to 8.0 lbs.". The left vertical side has a dimension line with arrows pointing to "4.9" at the bottom and "8.0" at the top. The right vertical side has a dimension line with arrows pointing to "8.0" at the bottom and "4.9" at the top. The bottom horizontal side is labeled "4.9". The diagram is bounded by dashed lines.



No.59
1.8 to 3.6 lbs.



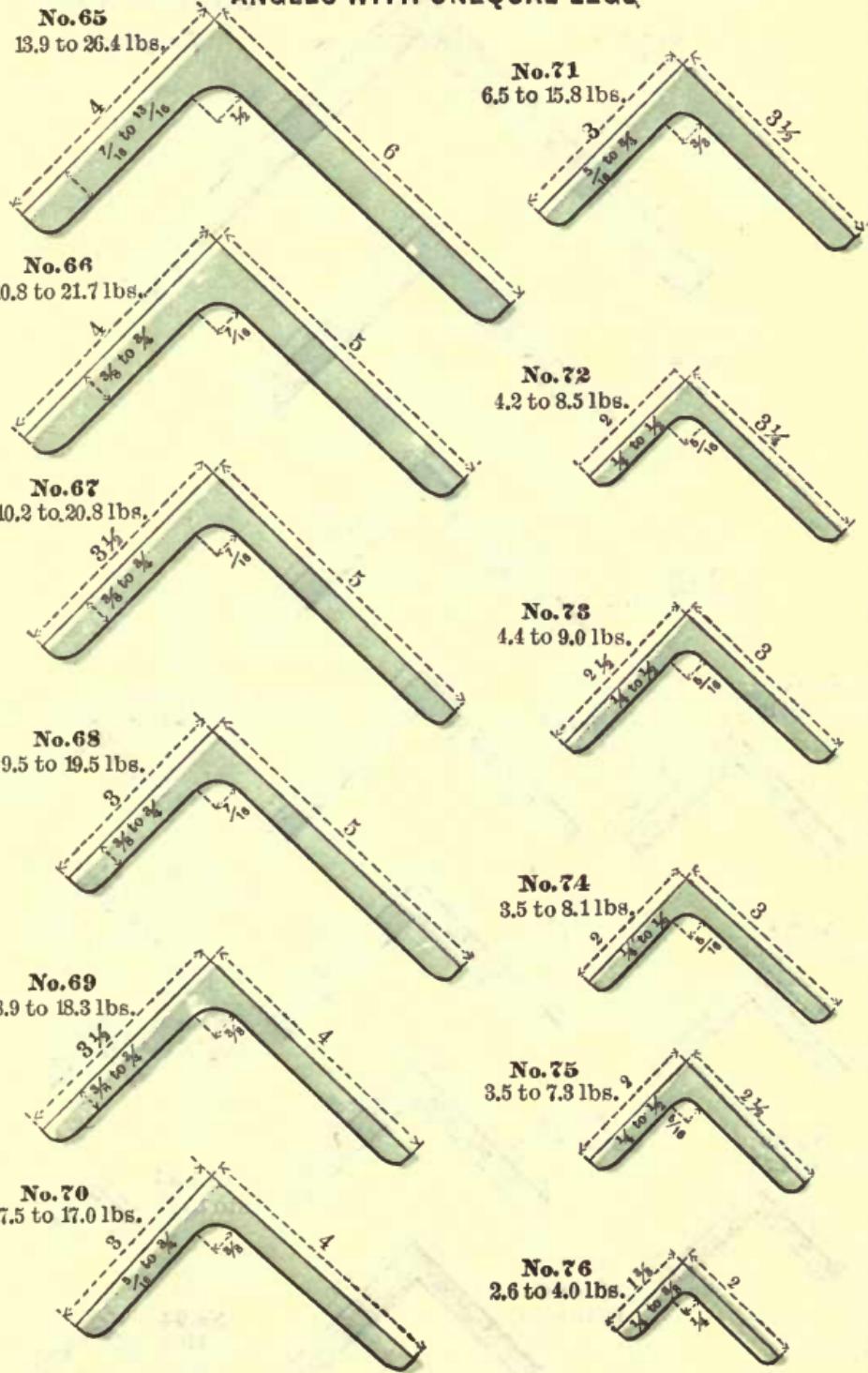
No. 61
1.5 to 1.7 lbs.



DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

ANGLES WITH UNEQUAL LEGS.

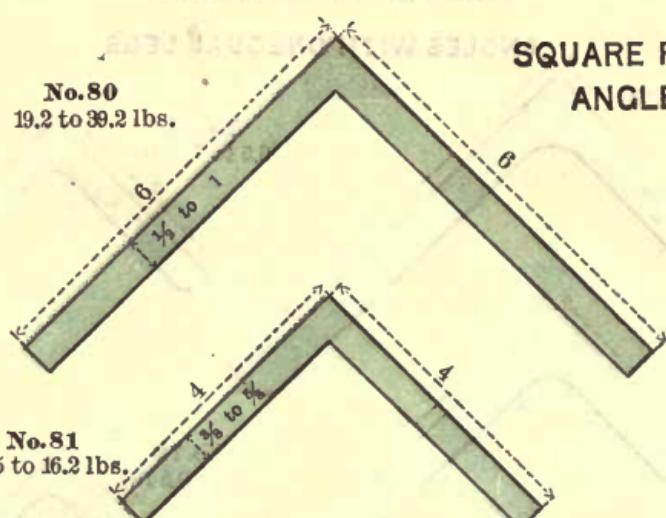


DEARBORN FOUNDRY COMPANY.

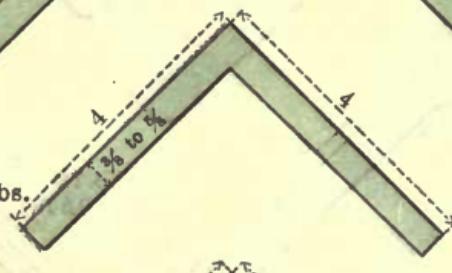
Carnegie Iron Sections.

SQUARE ROOT ANGLES.

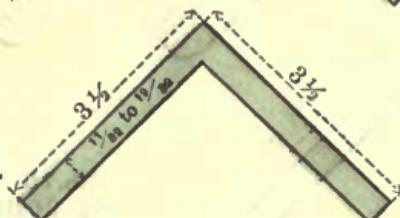
No. 80
19.2 to 39.2 lbs.



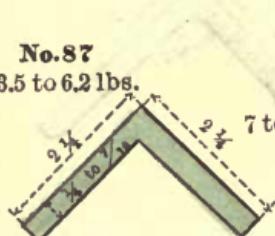
No. 81
9.5 to 16.2 lbs.



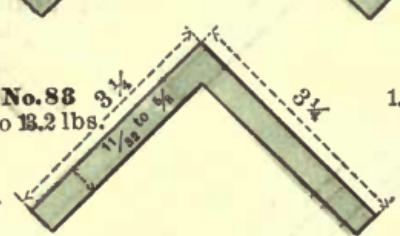
No. 82
7.6 to 13.5 lbs.



No. 87
3.5 to 6.2 lbs.



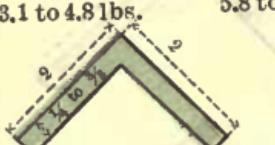
No. 83
7 to 13.2 lbs.



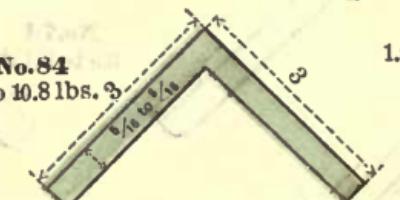
No. 90
1.8 to 2.4 lbs.



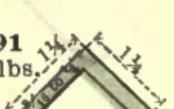
No. 88
3.1 to 4.8 lbs.



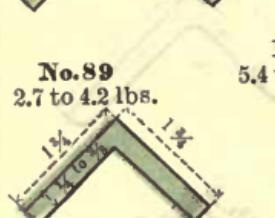
No. 84
5.8 to 10.8 lbs.



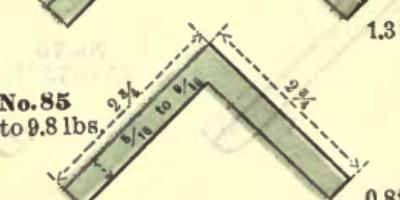
No. 91
1.5 to 2 lbs.



No. 89
2.7 to 4.2 lbs.



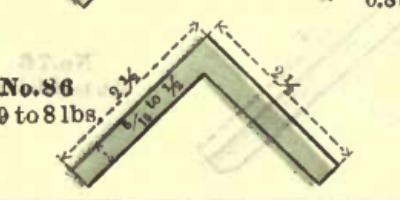
No. 85
5.4 to 9.8 lbs.



No. 92
1.3 to 1.8 lbs.



No. 86
4.9 to 8 lbs.



No. 93
0.8 to 1.2 lbs.



No. 94
0.9 lbs.
(New)

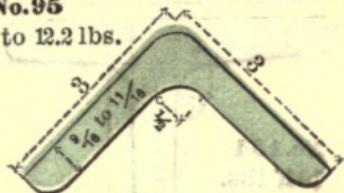


DEARBORN FOUNDRY COMPANY.
Carnegie Iron Sections.

COVER ANGLES.

No. 95

10.2 to 12.2 lbs.



No. 96

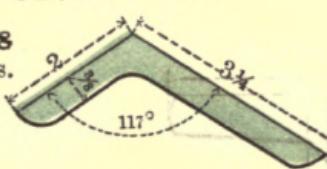
6.7 to 8.3 lbs.



OBTUSE ANGLE

No. 98

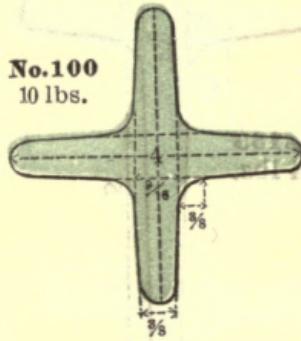
6 lbs.



STAR IRON

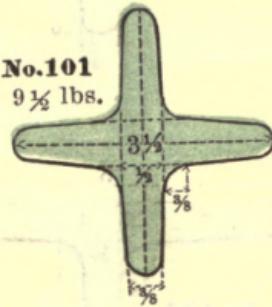
No. 100

10 lbs.



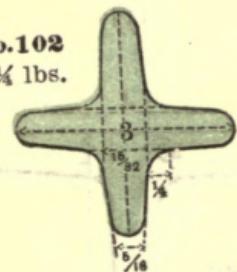
No. 101

9 1/2 lbs.



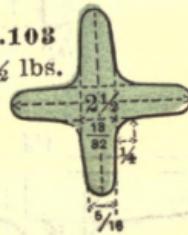
No. 102

7 1/4 lbs.



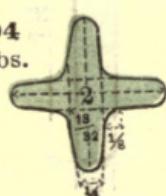
No. 103

5 1/2 lbs.



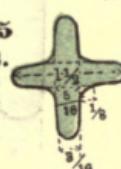
No. 104

3 3/4 lbs.



No. 105

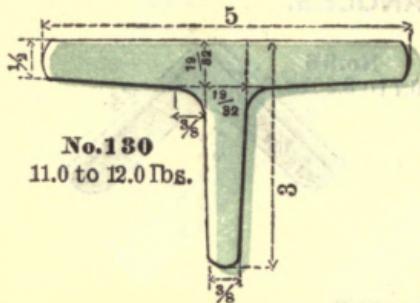
2.3 lbs.



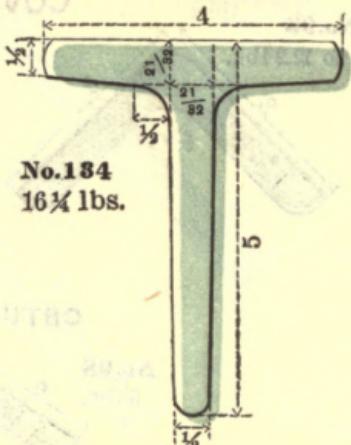
DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

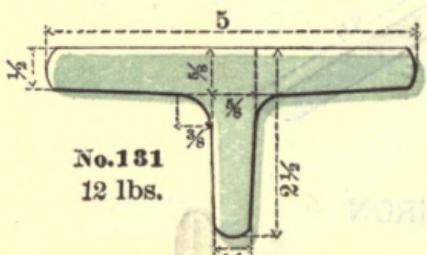
T IRON



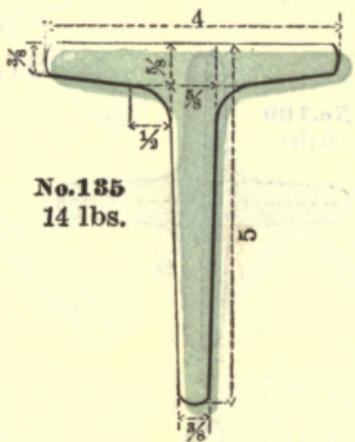
No. 130
11.0 to 12.0 lbs.



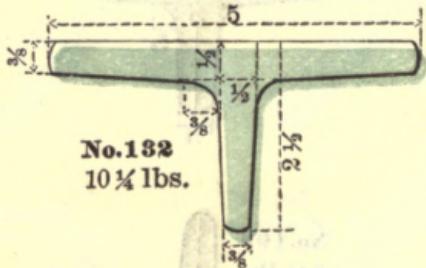
No. 134
16 $\frac{1}{4}$ lbs.



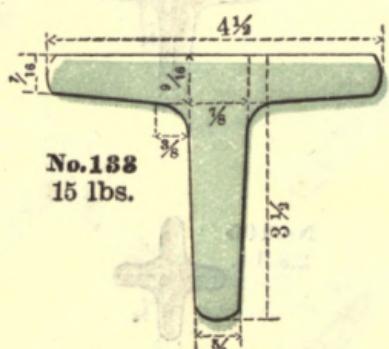
No. 131
12 lbs.



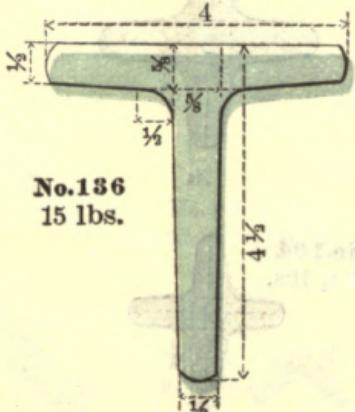
No. 135
14 lbs.



No. 132
10 $\frac{1}{4}$ lbs.



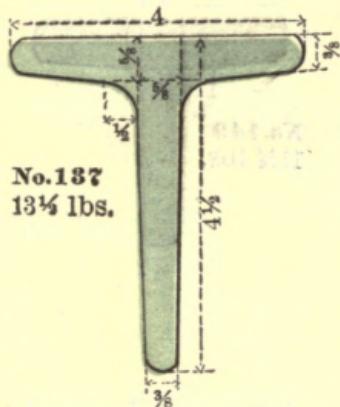
No. 138
15 lbs.



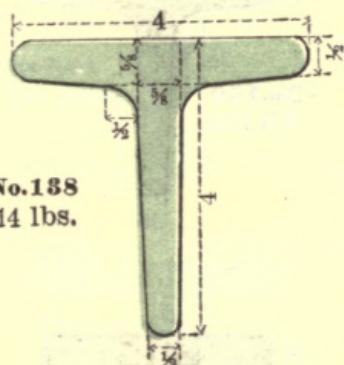
No. 136
15 lbs.

DEARBORN FOUNDRY COMPANY.

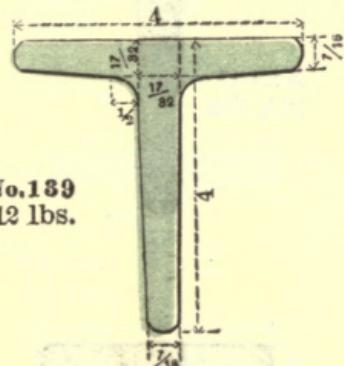
Carnegie Iron Sections.



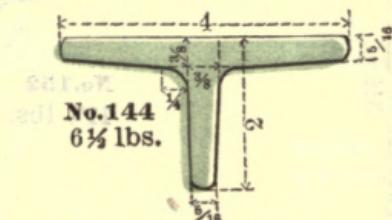
No. 137
13 1/4 lbs.



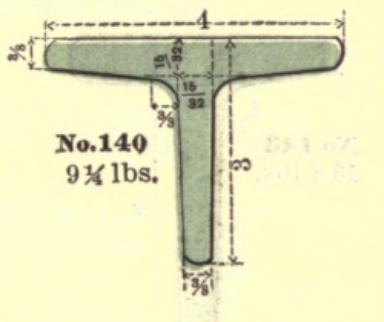
No. 138
14 lbs.



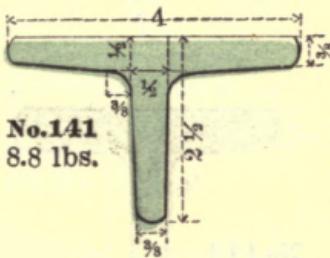
No. 139
12 lbs.



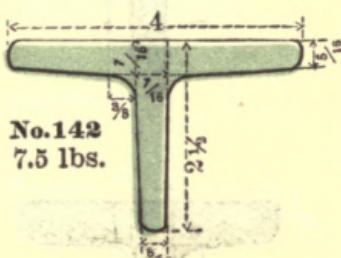
No. 144
6 1/4 lbs.



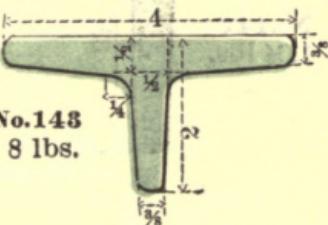
No. 140
9 1/4 lbs.



No. 141
8.8 lbs.



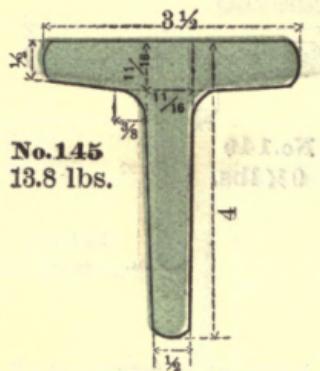
No. 142
7.5 lbs.



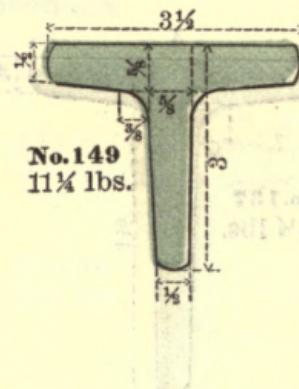
No. 143
8 lbs.

DEARBORN FOUNDRY COMPANY.

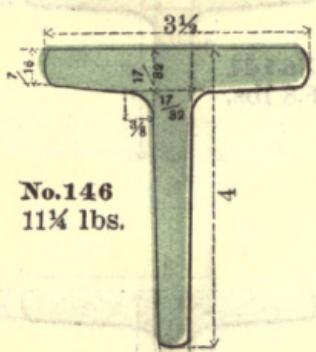
Carnegie Iron Sections.



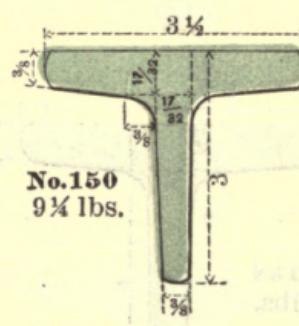
No. 145
13.8 lbs.



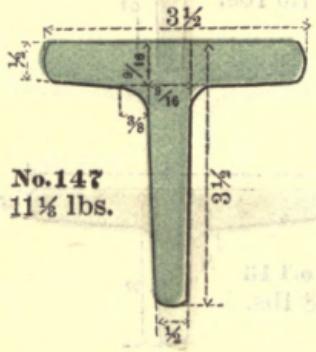
No. 149
11 1/4 lbs.



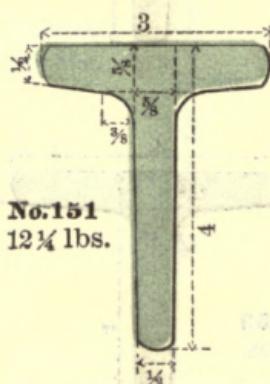
No. 146
11 1/4 lbs.



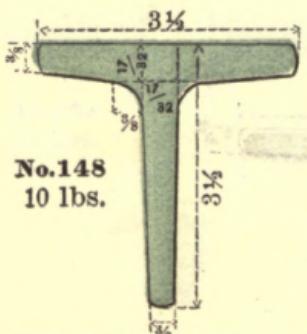
No. 150
9 1/4 lbs.



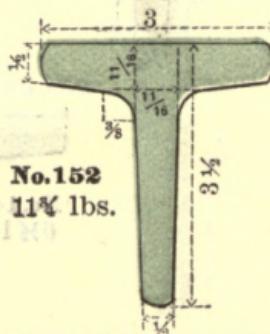
No. 147
11 1/4 lbs.



No. 151
12 1/4 lbs.



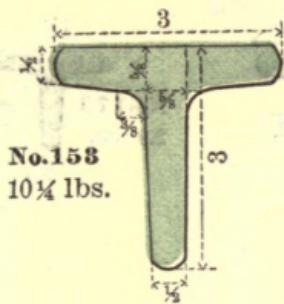
No. 148
10 lbs.



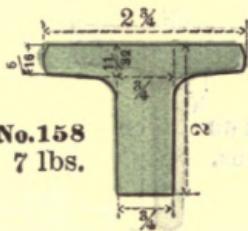
No. 152
11 1/4 lbs.

DEARBORN FOUNDRY COMPANY.

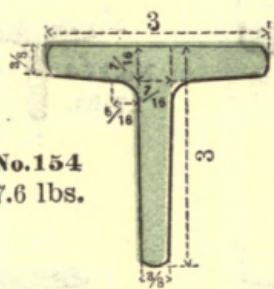
Carnegie Iron Sections.



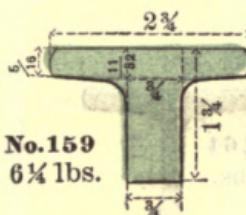
No.153
10 $\frac{1}{4}$ lbs.



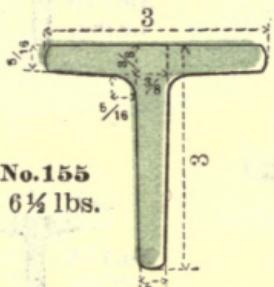
No.158
7 lbs.



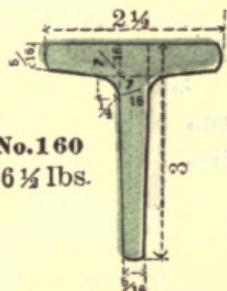
No.154
7.6 lbs.



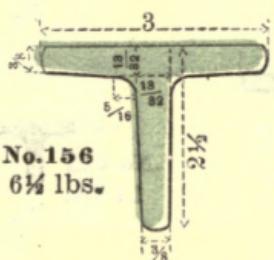
No.159
6 $\frac{1}{4}$ lbs.



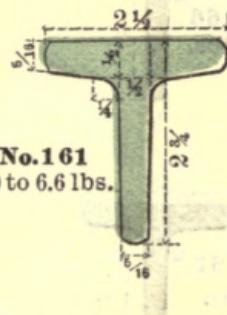
No.155
6 $\frac{1}{4}$ lbs.



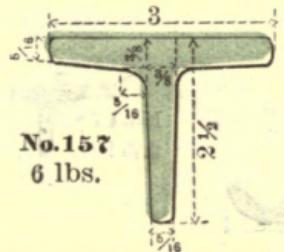
No.160
6 $\frac{1}{4}$ lbs.



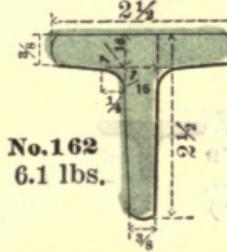
No.156
6 $\frac{1}{4}$ lbs.



No.161
6.0 to 6.6 lbs.



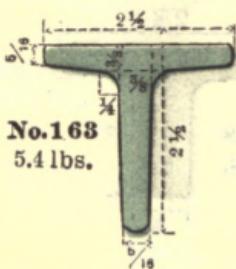
No.157
6 lbs.



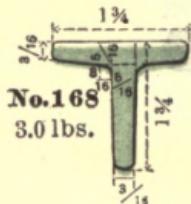
No.162
6.1 lbs.

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.



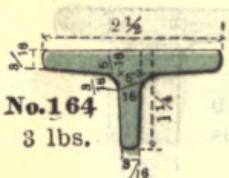
No. 163
5.4 lbs.



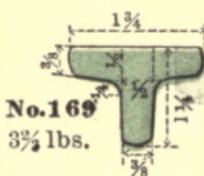
No. 168
3.0 lbs.



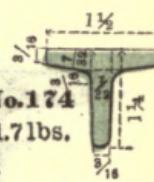
No. 173
2.9 lbs.



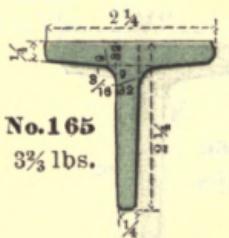
No. 164
3 lbs.



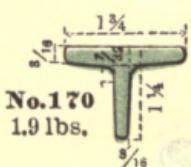
No. 169
3 1/2 lbs.



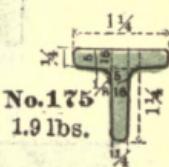
No. 174
1.7 lbs.



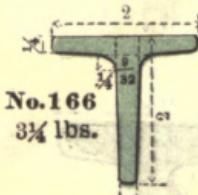
No. 165
3 2/3 lbs.



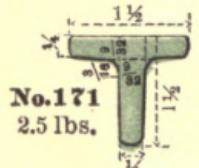
No. 170
1.9 lbs.



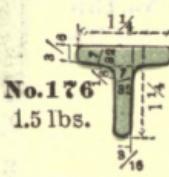
No. 175
1.9 lbs.



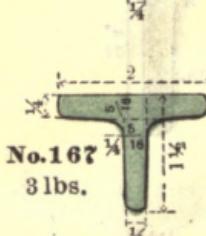
No. 166
3 1/4 lbs.



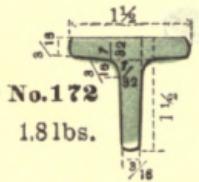
No. 171
2.5 lbs.



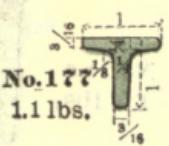
No. 176
1.5 lbs.



No. 167
3 lbs.



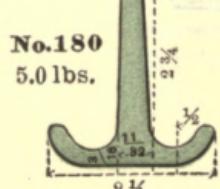
No. 172
1.8 lbs.



No. 177
1.1 lbs.



No. 179
1.25 lbs.
(New)



No. 180
5.0 lbs.

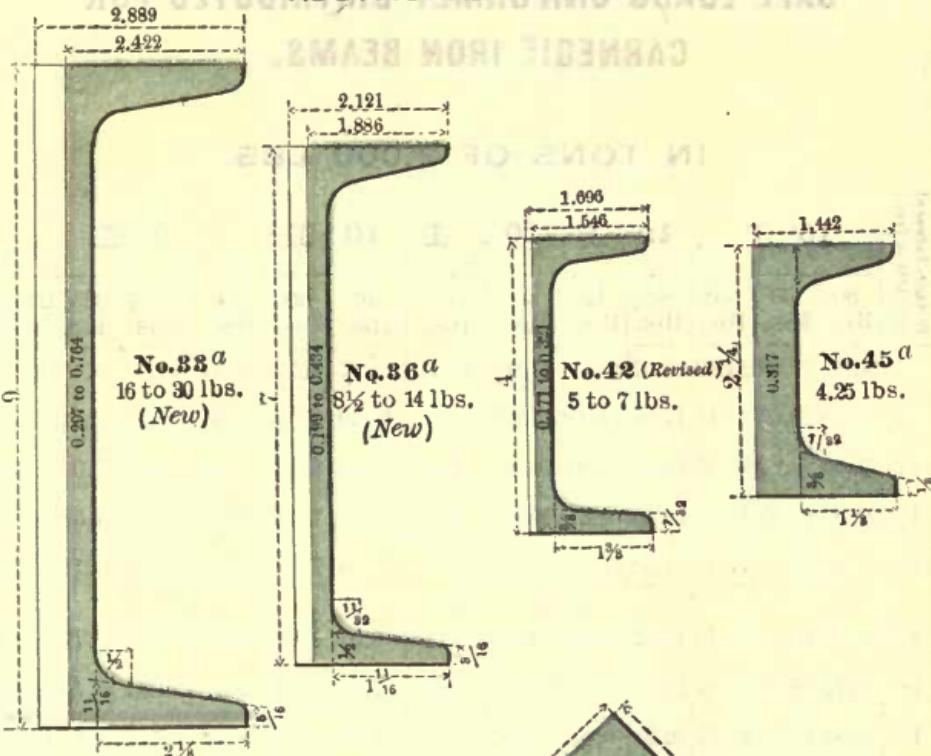


No. 178
0.75 lbs.

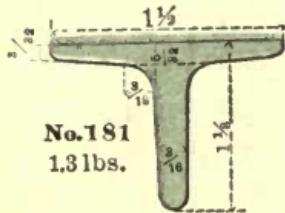
DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

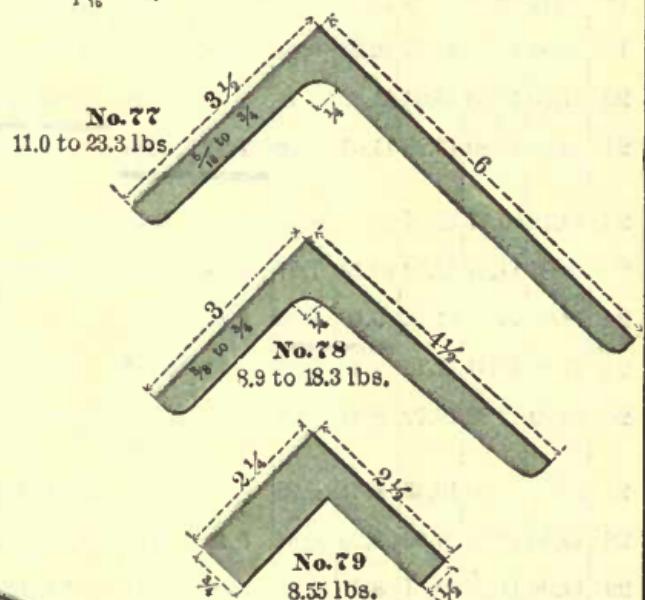
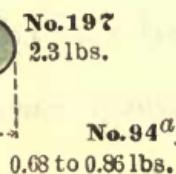
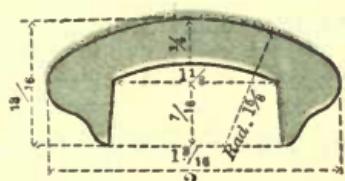
ADDITIONAL SHAPES.



T IRON



HAND RAIL



DEARBORN FOUNDRY COMPANY.

**SAFE LOADS UNIFORMLY DISTRIBUTED FOR
CARNEGIE IRON BEAMS.**

IN TONS OF 2,000 LBS.

Distance between Supports in feet:	15" I			12" I		10½" I		10" I		9" I			
	80 lbs.	60 lbs.	50 lbs.	56½ lbs.	42 lbs.	40 lbs.	31½ lbs.	36 lbs.	30 lbs.	45 lbs.	38½ lbs.	28½ lbs.	23½ lbs.
12	36.17	27.80	23.23	19.37	15.27	12.80	10.47	11.37	9.72	12.85	11.12	8.16	6.83
13	33.39	25.66	21.45	17.88	14.09	11.81	9.66	10.50	8.97	11.86	10.26	7.54	6.31
14	31.00	23.83	19.91	16.60	13.09	10.97	8.97	9.75	8.33	11.01	9.53	7.00	5.86
15	28.93	22.25	18.59	15.49	12.21	10.24	8.37	9.10	7.78	10.28	8.90	6.53	5.47
16	27.13	20.85	17.43	14.52	11.45	9.60	7.85	8.53	7.29	9.64	8.34	6.13	5.13
17	25.53	19.63	16.40	13.67	10.78	9.04	7.39	8.03	6.86	9.07	7.85	5.77	4.82
18	24.11	18.53	15.49	12.91	10.18	8.53	6.98	7.58	6.48	8.57	7.41	5.44	4.56
19	22.84	17.56	14.67	12.23	9.64	8.08	6.61	7.18	6.14	8.12	7.02	5.16	4.32
20	21.70	16.68	13.94	11.62	9.16	7.68	6.28	6.83	5.83	7.71	6.67	4.90	4.10
21	20.67	15.89	13.28	11.07	8.72	7.31	5.98	6.50	5.56	7.34	6.36	4.67	3.90
22	19.73	15.17	12.67	10.56	8.33	6.98	5.71	6.20	5.30	7.01	6.07	4.45	3.73
23	18.87	14.51	12.12	10.10	7.97	6.68	5.46	5.93	5.07	6.70	5.80	4.26	3.57
24	18.08	13.90	11.62	9.68	7.63	6.40	5.23	5.69	4.86	6.42	5.56	4.08	3.42
25	17.36	13.34	11.15	9.30	7.33	6.14	5.02	5.46	4.67	6.17	5.33	3.92	3.28
26	16.69	12.83	10.72	8.94	7.05	5.91	4.83	5.25	4.49	5.93	5.13	3.77	3.15
27	16.07	12.35	10.33	8.61	6.79	5.69	4.65	5.06	4.32	5.71	4.94	3.63	3.04
28	15.50	11.91	9.96	8.30	6.54	5.49	4.49	4.88	4.17	5.51	4.77	3.50	2.93
29	14.96	11.50	9.61	8.01	6.32	5.30	4.33	4.71	4.02	5.32	4.60	3.38	2.83
30	14.47	11.12	9.29	7.75	6.11	5.12	4.19	4.55	3.89	5.14	4.45	3.27	2.73

Safe loads given, include weight of beam. Maximum fibre strain, 12,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SAFE LOADS UNIFORMLY DISTRIBUTED FOR
CARNEGIE IRON BEAMS.**

IN TONS OF 2,000 LBS.

Distance between Supports in feet.	8" I			7" I		6" I		5" I		4"	3" I	
	35 lbs.	27 lbs.	21½ lbs.	22 lbs.	18 lbs.	16 lbs.	13½ lbs.	12 lbs.	10 lbs.	7 lbs.	9 lbs.	5½ lbs.
5	22.40	16.51	13.23	11.85	10.11	7.74	6.51	4.60	4.00	2.28	1.89	1.34
6	18.67	13.76	11.03	9.88	8.43	6.45	5.43	3.83	3.33	1.90	1.58	1.12
7	16.00	11.79	9.45	8.47	7.22	5.53	4.65	3.29	2.86	1.63	1.35	0.96
8	14.00	10.32	8.27	7.41	6.52	4.84	4.07	2.88	2.50	1.43	1.18	0.84
9	12.44	9.17	7.35	6.58	5.62	4.30	3.62	2.56	2.22	1.27	1.05	0.74
10	11.20	8.26	6.62	5.93	5.06	3.87	3.26	2.30	2.00	1.14	0.95	0.67
11	10.18	7.50	6.01	5.39	4.60	3.52	2.96	2.09	1.82	1.04	0.86	0.61
12	9.33	6.88	5.51	4.94	4.21	3.22	2.71	1.92	1.67	0.95	0.79	0.56
13	8.62	6.35	5.09	4.56	3.89	2.98	2.50	1.77	1.54	0.88	0.73	0.52
14	8.00	5.90	4.73	4.23	3.61	2.76	2.33	1.64	1.43	0.81	0.68	0.48
15	7.47	5.50	4.41	3.95	3.37	2.58	2.17	1.53	1.33	0.76	0.63	0.45
16	7.00	5.16	4.13	3.70	3.16	2.42	2.03	1.44	1.25	0.71	0.59	0.42
17	6.59	4.86	3.89	3.49	2.97	2.28	1.91	1.35	1.18	0.67	0.56	0.39
18	6.22	4.59	3.68	3.29	2.81	2.15	1.81	1.28	1.11	0.63	0.53	0.37
19	5.90	4.34	3.48	3.12	2.66	2.04	1.71	1.21	1.05	0.60	0.50	0.35
20	5.60	4.13	3.31	2.96	2.53	1.94	1.63	1.15	1.00	0.57	0.47	0.34
21	5.33	3.93	3.15	2.82	2.41	1.84	1.55	1.10	0.95	0.54	0.45	0.32

Safe loads given, include weight of beam. Maximum fibre strain, 12,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM
LOAD OF 100 LBS. PER SQUARE FOOT.**

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet	15" I			12" I		10½" I		10" I		9" I			
	80 lbs.	60 lbs.	50 lbs.	56½ lbs.	42 lbs.	40 lbs.	31½ lbs.	36 lbs.	30 lbs.	45 lbs.	38½ lbs.	28½ lbs.	23½ lbs.
12	60.3	48.3	38.7	32.3	25.4	21.3	17.4	19.0	16.2	21.4	18.5	13.6	11.4
13	51.4	39.5	33.0	27.5	21.7	18.2	14.9	16.2	13.9	18.2	15.8	11.6	9.7
14	44.3	34.0	28.5	23.7	18.7	15.7	12.8	13.9	11.9	15.7	13.6	10.0	8.4
15	38.6	29.7	24.8	20.7	16.3	13.6	11.2	12.1	10.4	13.7	11.8	8.7	7.3
16	33.9	26.1	21.8	18.2	14.3	12.0	9.8	10.7	9.1	12.0	10.4	7.7	6.4
17	30.0	23.1	19.3	16.1	12.7	10.6	8.7	9.4	8.1	10.7	9.2	6.8	5.7
18	26.8	20.6	17.2	14.3	11.3	9.5	7.8	8.4	7.2	9.5	8.2	6.0	5.1
19	24.0	18.5	15.4	12.9	10.2	8.5	7.0	7.6	6.5	8.5	7.4	5.4	4.5
20	21.7	16.7	13.9	11.6	9.2	7.7	6.3	6.8	5.8	7.7	6.7	4.9	4.1
21	19.7	15.1	12.6	10.5	8.3	7.0	5.7	6.2	5.3	7.0	6.1	4.4	3.7
22	17.9	13.8	11.5	9.6	7.6	6.3	5.2	5.6	4.8	6.4	5.5	4.1	3.4
23	16.4	12.6	10.5	8.8	6.9	5.8	4.7	5.2	4.4	5.8	5.0	3.7	3.1
24	15.1	11.6	9.7	8.1	6.4	5.3	4.4	4.7	4.0	5.4	4.6	3.4	2.8
25	13.9	10.7	8.9	7.4	5.9	4.9	4.0	4.4	3.7	4.9	4.3	3.1	2.6
26	12.8	9.9	8.2	6.9	5.4	4.5	3.7	4.0	3.5	4.6	3.9	2.9	2.4
27	11.9	9.2	7.6	6.4	5.0	4.2	3.4	3.7	3.2	4.2	3.7	2.7	2.2
28	11.1	8.5	7.1	5.9	4.7	3.9	3.2	3.5	3.0	3.9	3.4	2.5	2.1
29	10.3	7.9	6.6	5.5	4.4	3.7	3.0	3.2	2.8	3.7	3.2	2.3	2.0
0	9.6	7.4	6.2	5.2	4.1	3.4	2.8	3.0	2.6	3.4	3.0	2.2	1.8

For load of 200 lbs. per square foot, divide the spacing given by 2.
Maximum fibre strain, 12,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.



**SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM
LOAD OF 100 LBS. PER SQUARE FOOT.**

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I			7" I		6" I		5" I		4"	3" I	
	35 lbs.	27 lbs.	21½ lbs.	22 lbs.	18 lbs.	16 lbs.	13½ lbs.	12 lbs.	10 lbs.	7 lbs.	9 lbs.	5½ lbs.
5	89.6	66.0	52.9	47.4	40.4	31.0	26.0	18.4	16.0	9.1	7.6	5.4
6	62.2	45.9	36.7	32.9	28.1	21.5	18.1	12.8	11.1	6.3	5.3	3.7
7	45.7	33.7	27.0	24.2	20.6	15.8	13.3	9.4	8.2	4.7	3.9	2.7
8	35.0	25.8	20.7	18.5	15.8	12.1	10.2	7.2	6.3	3.6	3.0	2.1
9	27.7	20.4	16.3	14.6	12.5	9.6	8.0	5.7	4.9	2.8	2.3	1.7
10	22.4	16.5	13.2	11.9	10.1	7.7	6.5	4.6	4.0	2.3	1.9	1.3
11	18.5	13.6	10.9	9.8	8.4	6.4	5.4	3.8	3.3	1.9	1.6	1.1
12	15.6	11.5	9.2	8.2	7.0	5.4	4.5	3.2	2.8	1.6	1.3	0.9
13	13.3	9.8	7.8	7.0	6.0	4.6	3.9	2.7	2.4	1.3	1.1	....
14	11.4	8.4	6.8	6.0	5.2	3.9	3.3	2.3	2.0	1.2	1.0	....
15	10.0	7.3	5.9	5.3	4.5	3.4	2.9	2.0	1.8	1.0	....	....
16	8.8	6.4	5.2	4.6	3.9	3.0	2.5	1.8	1.6	....	....	....
17	7.8	5.7	4.6	4.1	3.5	2.7	2.3	1.6	1.4	....	....	....
18	6.9	5.1	4.1	3.7	3.1	2.4	2.0	1.4	1.2	....	....	....
19	6.2	4.6	3.7	3.3	2.8	2.1	1.8	1.3	1.1	....	....	....
20	5.6	4.1	3.3	3.0	2.5	1.9	1.6	1.2	1.0	....	....	....
21	5.1	3.7	3.0	2.7	2.3	1.8	1.5	1.0	....	....	....	....
22	4.6	3.4	2.7	2.4	2.1	1.6	1.3	....	....	....	....	....

For load of 200 lbs. per square foot, divide the spacing given by 2.
Maximum fibre strain, 12,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM
LOAD OF 125 LBS. PER SQUARE FOOT.**

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet	15" I			12" I		10½" I		10" I		9" I			
	80 lbs.	60 lbs.	50 lbs.	56½ lbs.	42 lbs.	40 lbs.	31½ lbs.	36 lbs.	30 lbs.	45 lbs.	38½ lbs.	28½ lbs.	23½ lbs.
12	48.2	27.0	31.0	25.8	20.3	17.0	13.9	15.2	13.0	17.1	14.8	10.9	9.1
13	41.1	31.6	26.4	22.0	17.3	14.6	11.9	12.9	11.1	14.6	12.6	9.3	7.8
14	35.4	27.2	22.8	19.0	15.0	12.5	10.3	11.1	9.5	12.6	10.9	8.0	6.7
15	30.9	23.7	19.8	16.5	13.0	10.9	8.9	9.7	8.3	11.0	9.5	7.0	5.8
16	27.1	20.9	17.4	14.5	11.5	9.6	7.9	8.5	7.3	9.6	8.3	6.1	5.1
17	24.0	18.5	15.4	12.9	10.1	8.5	7.0	7.6	6.5	8.5	7.4	5.4	4.5
18	21.4	16.5	13.8	11.5	9.0	7.6	6.2	6.7	5.8	7.6	6.6	4.8	4.0
19	19.2	14.8	12.4	10.3	8.1	6.8	5.6	6.1	5.2	6.8	5.9	4.3	3.6
20	17.4	13.3	11.2	9.3	7.3	6.1	5.0	5.5	4.7	6.2	5.3	3.9	3.3
21	15.7	12.1	10.1	8.4	6.6	5.6	4.6	5.0	4.3	5.6	4.8	3.6	3.0
22	14.3	11.0	9.2	7.7	6.1	5.1	4.2	4.5	3.9	5.1	4.4	3.2	2.7
23	13.1	10.1	8.4	7.0	5.5	4.6	3.8	4.1	3.5	4.7	4.0	3.0	2.5
24	12.1	9.3	7.7	6.4	5.1	4.3	3.5	3.8	3.2	4.3	3.7	2.7	2.3
25	11.1	8.5	7.1	5.9	4.7	3.9	3.2	3.5	3.0	3.9	3.4	2.5	2.1
26	10.3	7.9	6.6	5.5	4.3	3.6	3.0	3.2	2.8	3.6	3.2	2.3	1.9
27	9.5	7.3	6.1	5.1	4.0	3.4	2.8	3.0	2.6	3.4	2.9	2.2	1.8
28	8.9	6.8	5.7	4.7	3.7	3.1	2.6	2.8	2.4	3.1	2.7	2.0	1.7
29	8.3	6.3	5.3	4.4	3.5	2.9	2.4	2.6	2.2	2.9	2.5	1.9	1.6
30	7.7	5.9	5.0	4.1	3.3	2.7	2.2	2.4	2.1	2.7	2.4	1.7	1.5

For load of 250 lbs. per square foot, divide the spacing given by 2.
Maximum fibre strain, 12,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM
LOAD OF 125 LBS. PER SQUARE FOOT.**

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I			7" I		6" I		5" I		4"	3" I	
	35 lbs.	27 lbs.	21½ lbs.	22 lbs.	18 lbs.	16 lbs.	13½ lbs.	12 lbs.	10 lbs.	7 lbs.	9 lbs.	5½ lbs.
5	71.8	52.9	42.4	38.0	32.4	24.8	20.9	14.7	12.8	7.3	6.1	4.3
6	49.8	36.7	29.4	26.3	22.5	17.2	14.5	10.2	8.9	5.1	4.2	3.0
7	36.6	27.0	21.6	19.3	16.5	12.6	10.6	7.5	6.5	3.7	3.1	2.2
8	28.0	21.1	16.5	14.8	12.6	9.7	8.1	5.8	5.0	2.9	2.4	1.7
9	22.1	16.3	13.1	11.7	10.0	7.6	6.4	4.5	4.0	2.3	1.9	1.3
10	17.9	13.2	10.6	9.5	8.1	6.2	5.2	3.7	3.2	1.8	1.5	1.1
11	14.8	10.9	8.7	7.8	6.7	5.1	4.3	3.0	2.6	1.5	1.2	0.9
12	12.4	9.2	7.4	6.6	5.6	4.3	3.6	2.6	2.2	1.3	1.1	....
13	10.6	7.8	6.3	5.6	4.8	3.7	3.1	2.2	1.9	1.1	0.9	....
14	9.1	6.7	5.4	4.8	4.1	3.2	2.7	1.9	1.6	0.9	....	....
15	8.0	5.9	4.7	4.2	3.6	2.8	2.3	1.6	1.4	....	....	....
16	7.0	5.2	4.1	3.7	3.2	2.4	2.0	1.4	1.3	....	....	....
17	6.2	4.6	3.7	3.3	2.8	2.1	1.8	1.3	1.1	....	....	....
18	5.5	4.1	3.3	2.9	2.5	1.9	1.6	1.1	1.0	....	....	....
19	5.0	3.7	2.9	2.6	2.2	1.7	1.4	1.0	....	....	....	....
20	4.5	3.3	2.6	2.4	2.0	1.5	1.3	....	....	....	....	....
21	4.1	3.0	2.4	2.2	1.8	1.4	1.2	....	....	....	....	....
22	3.7	2.7	2.2	2.0	1.7	1.3	1.1	....	....	....	....	....

For load of 250 lbs. per square foot, divide the spacing given by 2.
Maximum fibre strain, 12,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM
LOAD OF 150 LBS. PER SQUARE FOOT.**

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet	15" I			12" I		10½" I		10" I		9" I			
	80 lbs.	60 lbs.	50 lbs.	56½ lbs.	42 lbs.	40 lbs.	31½ lbs.	36 lbs.	30 lbs.	45 lbs.	38½ lbs.	28½ lbs.	23½ lbs.
12	40.2	30.9	25.8	21.5	16.9	14.2	11.6	12.7	10.8	14.3	12.3	9.1	7.6
13	34.3	26.3	22.0	18.3	14.5	12.1	9.9	10.8	9.3	12.1	10.5	7.7	6.5
14	29.5	22.7	19.0	15.8	12.5	10.5	8.5	9.3	7.9	10.5	9.1	6.7	5.6
15	25.7	19.8	16.5	13.8	10.9	9.1	7.5	8.1	6.9	9.1	7.9	5.8	4.9
16	22.6	17.4	14.5	12.1	9.5	8.0	6.5	7.1	6.1	8.0	6.9	5.1	4.3
17	20.0	15.4	12.9	10.7	8.5	7.1	5.8	6.3	5.4	7.1	6.1	4.5	3.8
18	17.9	13.7	11.5	9.5	7.5	6.3	5.2	5.6	4.8	6.3	5.5	4.0	3.4
19	16.0	12.3	10.3	8.6	6.8	5.7	4.7	5.1	4.3	5.7	4.9	3.6	3.0
20	14.5	11.1	9.3	7.7	6.1	5.1	4.2	4.5	3.9	5.1	4.5	3.3	2.7
21	13.1	10.1	8.4	7.0	5.5	4.7	3.8	4.1	3.5	4.7	4.1	2.9	2.5
22	11.9	9.2	7.7	6.4	5.1	4.2	3.5	3.7	3.2	4.3	3.7	2.7	2.3
23	10.9	8.4	7.0	5.9	4.6	3.9	3.1	3.5	2.9	3.9	3.4	2.5	2.1
24	10.1	7.7	6.5	5.4	4.3	3.5	2.9	3.1	2.7	3.6	3.1	2.3	1.9
25	9.3	7.1	5.9	4.9	3.9	3.3	2.7	2.9	2.5	3.3	2.8	2.1	1.7
26	8.5	6.6	5.5	4.6	3.6	3.0	2.5	2.7	2.3	3.0	2.6	1.9	1.6
27	7.9	6.1	5.1	4.3	3.3	2.8	2.3	2.5	2.1	2.8	2.5	1.8	1.5
28	7.4	5.7	4.7	3.9	3.1	2.6	2.1	2.3	2.0	2.6	2.3	1.7	1.4
29	6.9	5.3	4.4	3.7	2.9	2.5	2.0	2.1	1.9	2.5	2.1	1.6	1.3
30	6.4	4.9	4.1	3.5	2.7	2.3	1.9	2.0	1.7	2.3	2.0	1.5	1.2

For load of 300 lbs. per square foot, divide the spacing given by 2.
Maximum fibre strain, 12,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM
LOAD OF 150 LBS. PER SQUARE FOOT.**

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I			7" I			6" I			5" I			4" I			3" I		
	35 lbs	27 lbs.	21½ lbs.	22 lbs.	18 lbs.	16 lbs.	13½ lbs.	12 lbs.	10 lbs.	7 lbs.	9 lbs.	5½ lbs.	.....	.....	.....	.....
5	59.7	44.0	35.3	31.6	26.9	20.7	17.3	12.3	10.7	6.1	5.1	3.6	.....	.....	.....	.....
6	41.5	30.6	24.5	21.9	18.7	14.3	12.1	8.5	7.4	4.2	3.5	2.5	.....	.....	.....	.....
7	30.5	22.5	18.0	16.1	13.7	10.5	8.9	6.3	5.5	3.1	2.6	1.8	.....	.....	.....	.....
8	23.3	17.2	13.8	12.3	10.5	8.1	6.8	4.8	4.2	2.4	2.0	1.4	.....	.....	.....	.....
9	18.5	13.6	10.9	9.7	8.5	6.4	5.3	3.8	3.3	1.9	1.5	1.1	.....	.....	.....	.....
10	14.9	11.0	8.8	7.9	6.7	5.1	4.3	3.1	2.7	1.5	1.3	0.9	.....	.....	.....	.....
11	12.3	9.1	7.3	6.5	5.6	4.3	3.6	2.5	2.2	1.3	1.1	.....	.....	.....	.....	.....
12	10.4	7.7	6.1	5.5	4.7	3.6	3.0	2.1	1.9	1.1	0.9	.....	.....	.....	.....	.....
13	8.9	6.5	5.2	4.7	4.0	3.1	2.6	1.8	1.6	0.9	.....	.....	.....	.....	.....	.....
14	7.6	5.6	4.5	4.0	3.5	2.6	2.2	1.5	1.3	.....	.....	.....	.....	.....	.....	.....
15	6.7	4.9	3.9	3.5	3.0	2.3	1.9	1.3	1.2	.....	.....	.....	.....	.....	.....	.....
16	5.9	4.3	3.5	3.1	2.6	2.0	1.7	1.2	1.1	.....	.....	.....	.....	.....	.....	.....
17	5.2	3.8	3.1	2.7	2.3	1.8	1.5	1.1	0.9	.....	.....	.....	.....	.....	.....	.....
18	4.6	3.4	2.7	2.5	2.1	1.6	1.3	0.9	.....	.....	.....	.....	.....	.....	.....	.....
19	4.1	3.1	2.5	2.2	1.9	1.4	1.2	.....	.....	.....	.....	.....	.....	.....	.....	.....
20	3.7	2.7	2.2	2.0	1.7	1.3	1.1	.....	.....	.....	.....	.....	.....	.....	.....	.....
21	3.4	2.5	2.0	1.8	1.5	1.2	1.0	.....	.....	.....	.....	.....	.....	.....	.....	.....
22	3.1	2.3	1.8	1.6	1.4	1.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

For load of 300 lbs. per square foot, divide the spacing given by 2.
Maximum fibre strain, 12,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM
LOAD OF 175 LBS. PER SQUARE FOOT.**

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet	15" I			12" I		10½" I		10" I		9" I			
	80 lbs.	60 lbs.	50 lbs.	56½ lbs.	42 lbs.	40 lbs.	31½ lbs.	36 lbs.	30 lbs.	45 lbs.	38½ lbs.	28½ lbs.	23½ lbs.
12	34.5	26.5	22.1	18.5	14.5	12.2	9.9	10.9	9.3	12.2	10.6	7.8	6.5
13	29.4	22.6	18.9	15.7	12.4	10.4	8.5	9.3	7.9	10.4	9.0	6.6	5.5
14	25.3	19.4	16.3	13.5	10.7	9.0	7.3	7.9	6.8	9.0	7.8	5.7	4.8
15	22.1	17.0	14.2	11.8	9.3	7.8	6.4	6.9	5.9	7.8	6.7	5.0	4.2
16	19.4	14.9	12.5	10.4	8.2	6.9	5.6	6.1	5.2	6.9	5.9	4.4	3.7
17	17.1	13.2	11.0	9.2	7.3	6.1	5.0	5.4	4.6	6.1	5.3	3.9	3.3
18	15.3	11.8	9.8	8.2	6.5	5.4	4.5	4.8	4.1	5.4	4.7	3.4	2.9
19	13.7	10.6	8.8	7.4	5.8	4.9	4.0	4.3	3.7	4.9	4.2	3.1	2.6
20	12.4	9.5	7.9	6.6	5.3	4.4	3.6	3.9	3.3	4.4	3.8	2.8	2.3
21	11.3	8.6	7.2	6.0	4.8	4.0	3.3	3.5	3.0	4.0	3.5	2.5	2.1
22	10.2	7.9	6.6	5.5	4.3	3.6	3.0	3.2	2.7	3.7	3.1	2.3	1.9
23	9.4	7.2	6.0	5.0	3.9	3.3	2.7	3.0	2.5	3.4	2.9	2.1	1.8
24	8.6	6.6	5.5	4.6	3.6	3.0	2.5	2.7	2.3	3.1	2.7	1.9	1.6
25	7.9	6.1	5.1	4.2	3.3	2.8	2.3	2.5	2.1	2.8	2.5	1.8	1.5
26	7.3	5.7	4.7	3.9	3.1	2.6	2.1	2.3	1.9	2.6	2.2	1.7	1.4
27	6.8	5.3	4.4	3.7	2.9	2.4	1.9	2.1	1.8	2.4	2.0	1.5	1.3
28	6.3	4.9	4.1	3.4	2.7	2.2	1.8	2.0	1.7	2.2	1.9	1.4	1.2
29	5.9	4.5	3.8	3.2	2.5	2.1	1.7	1.8	1.6	2.1	1.8	1.3	1.1
30	5.5	4.2	3.5	3.0	2.3	1.9	1.6	1.7	1.5	1.9	1.7	1.3	1.0

For load of 350 lbs. per square foot, divide the spacing given by 2.
Maximum fibre strain, 12,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY.

**SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM
LOAD OF 175 LBS. PER SQUARE FOOT.**

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I			7" I		6" I		5" I		4"	3" I	
	35 lbs.	27 lbs.	21½ lbs.	22 lbs.	18 lbs.	16 lbs.	13½ lbs.	12 lbs.	10 lbs.	7 lbs.	9 lbs.	5½ lbs.
5	51.2	37.7	30.2	27.1	23.1	17.7	14.9	10.5	9.1	5.2	4.3	3.1
6	35.5	26.2	21.0	18.8	16.1	12.3	10.3	7.3	6.3	3.6	3.0	2.1
7	26.1	19.3	15.4	13.8	11.8	9.0	7.6	5.4	4.7	2.7	2.2	1.5
8	20.0	14.7	11.8	10.6	9.0	6.9	5.8	4.1	3.6	2.1	1.7	1.2
9	15.8	11.7	9.3	8.3	7.1	5.5	4.6	3.3	2.8	1.6	1.3	1.0
10	12.8	9.4	7.5	6.8	5.8	4.4	3.7	2.6	2.3	1.3	1.1	....
11	10.6	7.8	6.2	5.6	4.8	3.7	3.1	2.2	1.9	1.1	0.9	....
12	8.9	6.6	5.3	4.7	4.0	3.1	2.6	1.8	1.6	0.9	....	....
13	7.6	5.6	4.5	4.0	3.4	2.6	2.2	1.5	1.4	....	....	....
14	6.5	4.8	3.9	3.4	3.0	2.2	1.9	1.3	1.1	....	....	....
15	5.7	4.2	3.4	3.0	2.6	1.9	1.7	1.1	1.0	....	....	....
16	5.0	3.7	3.0	2.6	2.3	1.7	1.5	1.0	....	....	....	....
17	4.5	3.3	2.6	2.3	2.0	1.5	1.3	....	....	....	....	....
18	4.0	2.9	2.3	2.1	1.8	1.4	1.1	....	....	....	....	....
19	3.5	2.6	2.1	1.9	1.6	1.2	1.0	....	....	....	....	....
20	3.2	2.3	1.9	1.7	1.4	1.1	....	....	....	....	....	....
21	2.9	2.1	1.7	1.5	1.3	1.0	....	....	....	....	....	....
22	2.6	1.9	1.6	1.4	1.2	....	....	....	....	....	....	....

For load of 350 lbs. per square foot, divide the spacing given by 2.
Maximum fibre strain, 12,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY,

1525 Dearborn Street,

Chicago, Ill.

~~TOOK BRAUDS PER SQUARE FOOT~~

WROUGHT IRON I BEAMS,

STEEL I BEAMS.

A FULL ASSORTMENT OF ALL SIZES CARRIED IN STOCK

Low Prices and Prompt Delivery Guaranteed.

In cutting Beams from Stock there is usually some waste, which together with the cost of cutting, renders it necessary to make an additional charge for Beams cut from stock ; hence it is always better to order in advance of time when same are required, in order that they may be rolled and cut to length ordered.

DEARBORN FOUNDRY COMPANY.

EXPLANATION OF TABLES ON CARNEGIE SECTIONS OF I BEAMS.

PAGES 161 TO 185 INCLUSIVE.

These tables are calculated for the lightest and heaviest weights to which each shape or size can be rolled, the term shape being meant to include the variable sections which are rolled in the same grooves by increasing or reducing the distance between the rolls. Each shape is designated by a single number.

These tables give:

I. In second column, the load which a beam will carry safely, distributed uniformly over its length, for the distances between supports (or lengths of span) given in first column;

II. In fifth to eleventh columns inclusive, the distances between centers at which beams should be placed in floors, to carry safely loads of 100, 125, 150, 175, 200, 250 and 300 lbs. per square foot (including the weight of the beams), for the distances between supports given in first column;

III. In third column, the deflection of the beams at center under these loads.

IV. In fourth column, the weight of the beam itself, for a length equal to the distance between supports.

To determine the load which a beam will carry exclusive of its own weight, the figures in fourth column must be subtracted from the figures in second column.

It is assumed in these tables that proper provision is made for preventing the compression flanges of the beams from deflecting sideways. They should be held in position at distances not exceeding twenty times the width of flange, otherwise the strain allowed should be reduced.

If the deflection of beams carrying plastered ceilings exceeds $\frac{1}{360}$ th of the distance between supports, or $\frac{1}{30}$ th of an inch per foot of this distance, there is danger of the ceiling cracking, as has been found by practical tests. This limit is indicated in the following tables by a cross line, beyond which the spans and loads must not be used for beams intended to carry plastered ceilings. It may generally be assumed, both for rolled and

built beams, that the above limit is not exceeded so long as the depth of beam is not greater than $\frac{1}{4}$ th of the distance between supports, or $\frac{1}{2}$ inch per foot of this distance.

Inasmuch as the carrying capacity of beams increases largely with their depth, and it is therefore economical to use the greatest depth of beam consistent with the other conditions to which it is necessary to conform, (as clear height, etc.,) the above cases of extreme deflection will rarely be met with in practice.

EXAMPLES OF APPLICATION OF TABLES.

I. What size and weight of beam 19'-0" long in clear between walls, and therefore say 20'-0" long between centers of supports, will be required to carry safely a uniformly distributed load of 15 tons, the weight of the beam included?

Answer: A 15" beam, No. 1, heavy, 65 lbs. per foot, will be sufficient, since the safe load, as per table, for 20' length, = 16.38 t.

It is evident, however, that a beam intermediate in weight between 50 lbs. and 65 lbs. can be used, to ascertain which, proceed as follows:

The safe load for a 15" beam 50 lbs. per foot = 14.12 t. Since therefore an increase in the carrying capacity of beam, of 2.26 t., (16.38 t. — 14.12 t.) requires an increase of its weight of 15 lbs., (65 lbs. — 50 lbs.,) therefore an increase of its carrying capacity of 0.88 t., (15 t. — 14.12 t.) will require $\frac{0.88}{2.26} \times 15 = 6$ lbs. increase of weight of beam, *i. e.*, the beam should weigh 56 lbs. per foot.

II. A fire-proof floor 24'-6" in clear between walls, weighing, inclusive of beams, 70 lbs. per square foot, (assumed,) is to be proportioned to carry an additional load of 130 lbs. per square foot; what size and weight of beams will be required, and how far apart should they be placed?

Answer: The total load = 200 lbs. per square foot, and the distance between supports = 25', *i. e.* 6" greater than the distance in clear between walls. By referring to tables, it will be seen that either light 12" beams weighing 42 lbs. per foot, spaced 2.9 ft. between centers, or light 15" beams, 50 lbs., spaced 4.5 ft. between centers, will answer the purpose, but since the 12" beams for this span and load are beyond the cross-line, they must not be used if intended to carry a plastered ceiling.

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

**15-INCH I BEAM, No. 2, HEAVY,
80 LBS. PER FOOT.**

Depth, 15". Width of Flanges, 5.81". Thickness of Web, 0.93".
Maximum fiber strain = .12000 lbs. per square inch.

Distance between supports, in feet	Safe load, uniformly distributed, (including weight of beam) in tons of 2000 lbs.	Deflection under this load, in inches	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	40.00	0.09	0.40	80.0	64.0	53.3	45.7	40.0	32.0	26.7
11	36.36	0.11	0.44	66.1	52.9	44.1	37.8	33.1	26.4	22.0
12	33.33	0.13	0.48	55.6	44.4	37.0	31.7	27.8	22.2	18.5
13	30.77	0.16	0.52	47.3	37.9	31.6	27.1	23.7	18.9	15.8
14	28.57	0.18	0.56	40.8	32.6	27.2	23.3	20.4	16.3	13.6
15	26.67	0.21	0.60	35.6	28.4	23.7	20.3	17.8	14.2	11.9
16	25.00	0.24	0.64	31.3	25.0	20.8	17.9	15.6	12.5	10.4
17	23.53	0.27	0.68	27.7	22.1	18.5	15.8	13.8	11.1	9.2
18	22.22	0.30	0.72	24.7	19.8	16.5	14.1	12.3	9.9	8.2
19	21.05	0.33	0.76	22.2	17.7	14.8	12.6	11.1	8.9	7.4
20	20.00	0.37	0.80	20.0	16.0	13.3	11.4	10.0	8.0	6.7
21	19.05	0.41	0.84	18.1	14.5	12.1	10.4	9.1	7.3	6.0
22	18.18	0.45	0.88	16.5	13.2	11.0	9.4	8.3	6.6	5.5
23	17.39	0.49	0.92	15.1	12.1	10.1	8.6	7.6	6.0	5.0
24	16.67	0.53	0.96	13.9	11.1	9.3	7.9	6.9	5.6	4.6
25	16.00	0.58	1.00	12.8	10.2	8.5	7.3	6.4	5.1	4.3
26	15.38	0.62	1.04	11.8	9.5	7.9	6.8	5.9	4.7	3.9
27	14.81	0.67	1.08	11.0	8.8	7.3	6.3	5.5	4.4	3.7
28	14.29	0.73	1.12	10.2	8.2	6.8	5.8	5.1	4.1	3.4
29	13.79	0.78	1.16	9.5	7.6	6.3	5.4	4.8	3.8	3.2
30	13.33	0.83	1.20	8.9	7.1	5.9	5.1	4.4	3.6	3.0
31	12.90	0.89	1.24	8.3	6.6	5.5	4.8	4.2	3.3	2.8
32	12.50	0.95	1.28	7.8	6.2	5.2	4.5	3.9	3.1	2.6
33	12.12	1.01	1.32	7.3	5.9	4.9	4.2	3.7	2.9	2.4
34	11.76	1.07	1.36	6.9	5.5	4.6	3.9	3.5	2.8	2.3
35	11.43	1.13	1.40	6.5	5.2	4.3	3.7	3.3	2.6	2.2
36	11.11	1.20	1.44	6.2	4.9	4.1	3.5	3.1	2.5	2.1
37	10.81	1.26	1.48	5.8	4.7	3.9	3.3	2.9	2.3	1.9
38	10.53	1.33	1.52	5.5	4.4	3.7	3.2	2.8	2.2	1.8
39	10.26	1.40	1.56	5.3	4.2	3.5	3.0	2.6	2.1	1.8

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

15-INCH I BEAM, No. 2, LIGHT, 67 LBS. PER FOOT.

Depth, 15". Width of Flanges, 5.55". Thickness of Web, 0.67".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	36.12	0.09	0.34	72.2	57.8	48.2	41.3	36.1	28.9	24.1
11	32.84	0.11	0.37	59.7	47.8	39.8	34.1	29.9	23.9	19.9
12	30.10	0.13	0.40	50.2	40.1	33.4	28.7	25.1	20.1	16.7
13	27.78	0.16	0.44	42.7	34.2	28.5	24.4	21.4	17.1	14.2
14	25.80	0.18	0.47	36.9	29.5	24.6	21.1	18.4	14.7	12.3
15	24.08	0.21	0.50	32.1	25.7	21.4	18.3	16.1	12.8	10.7
16	22.58	0.24	0.54	28.2	22.6	18.8	16.1	14.1	11.3	9.4
17	21.25	0.27	0.57	25.0	20.0	16.7	14.3	12.5	10.0	8.3
18	20.07	0.30	0.60	22.3	17.8	14.9	12.7	11.2	8.9	7.4
19	19.01	0.33	0.64	20.0	16.0	13.3	11.4	10.0	8.0	6.7
20	18.06	0.37	0.67	18.1	14.4	12.0	10.3	9.0	7.2	6.0
21	17.20	0.41	0.70	16.4	13.1	10.9	9.4	8.2	6.6	5.5
22	16.42	0.45	0.74	14.9	11.9	10.0	8.5	7.5	6.0	5.0
23	15.70	0.49	0.77	13.7	10.9	9.1	7.8	6.8	5.5	4.6
24	15.05	0.53	0.80	12.5	10.0	8.4	7.2	6.3	5.0	4.2
25	14.45	0.58	0.84	11.6	9.2	7.7	6.7	5.8	4.6	3.9
26	13.89	0.62	0.87	10.7	8.5	7.1	6.1	5.3	4.3	3.6
27	13.38	0.67	0.91	9.9	7.9	6.6	5.6	5.0	4.0	3.3
28	12.90	0.72	0.94	9.2	7.4	6.2	5.3	4.6	3.7	3.1
29	12.46	0.78	0.97	8.6	6.9	5.7	4.9	4.3	3.4	2.9
30	12.04	0.83	1.01	8.0	6.4	5.4	4.6	4.0	3.2	2.7
31	11.65	0.89	1.04	7.5	6.0	5.0	4.3	3.8	3.0	2.5
32	11.29	0.95	1.07	7.1	5.6	4.7	4.0	3.5	2.8	2.4
33	10.95	1.01	1.11	6.6	5.3	4.4	3.8	3.3	2.7	2.2
34	10.62	1.07	1.14	6.2	5.0	4.1	3.6	3.1	2.5	2.1
35	10.32	1.13	1.17	5.9	4.7	3.9	3.4	2.9	2.4	2.0
36	10.03	1.20	1.21	5.6	4.5	3.7	3.2	2.8	2.2	1.9
37	9.76	1.26	1.24	5.3	4.2	3.5	3.0	2.6	2.1	1.8
38	9.51	1.33	1.27	5.0	4.0	3.3	2.9	2.5	2.0	1.7
39	9.26	1.40	1.31	4.7	3.8	3.2	2.7	2.4	1.9	1.6

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

15-INCH I BEAM, No. 1, HEAVY, 65 LBS. PER FOOT.

Depth, 15". Width of Flanges, 5.33". Thickness of Web, 0.77".
Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet	Safe load, uniformly distributed, (including weight of beam) in tons of 2000 lbs.	Deflection under this load, in inches	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	32.76	0.09	0.33	65.5	52.4	43.7	37.4	32.8	26.2	21.8
11	29.78	0.11	0.36	54.1	43.3	36.1	30.9	27.1	21.7	18.0
12	27.30	0.13	0.39	45.5	36.4	30.3	26.0	22.8	18.2	15.2
13	25.20	0.16	0.42	38.8	31.0	25.8	22.2	19.4	15.5	12.9
14	23.40	0.18	0.46	33.4	26.7	22.3	19.1	16.7	13.4	11.1
15	21.84	0.21	0.49	29.1	23.3	19.4	16.6	14.6	11.6	9.7
16	20.48	0.24	0.52	25.6	20.5	17.1	14.6	12.8	10.2	8.5
17	19.27	0.27	0.55	22.7	18.1	15.1	13.0	11.3	9.1	7.6
18	18.20	0.30	0.59	20.2	16.2	13.5	11.6	10.1	8.1	6.7
19	17.24	0.33	0.62	18.1	14.5	12.1	10.4	9.1	7.3	6.0
20	16.38	0.37	0.65	16.4	13.1	10.9	9.4	8.2	6.6	5.5
21	15.60	0.41	0.68	14.9	11.9	9.9	8.5	7.4	5.9	5.0
22	14.89	0.45	0.72	13.5	10.8	9.0	7.7	6.8	5.4	4.5
23	14.24	0.49	0.75	12.4	9.9	8.3	7.1	6.2	5.0	4.1
24	13.65	0.53	0.78	11.4	9.1	7.6	6.5	5.7	4.6	3.8
25	13.10	0.58	0.81	10.5	8.4	7.0	6.0	5.2	4.2	3.5
26	12.60	0.62	0.85	9.7	7.8	6.5	5.5	4.8	3.9	3.2
27	12.13	0.67	0.88	9.0	7.2	6.0	5.1	4.5	3.6	3.0
28	11.70	0.72	0.91	8.4	6.7	5.6	4.8	4.2	3.3	2.8
29	11.30	0.78	0.94	7.8	6.2	5.2	4.4	3.9	3.1	2.6
30	10.92	0.83	0.98	7.3	5.8	4.9	4.2	3.6	2.9	2.4
31	10.57	0.89	1.01	6.8	5.5	4.5	3.9	3.4	2.7	2.3
32	10.24	0.95	1.04	6.4	5.1	4.3	3.7	3.2	2.6	2.1
33	9.93	1.01	1.07	6.0	4.8	4.0	3.4	3.0	2.4	2.0
34	9.64	1.07	1.11	5.7	4.5	3.8	3.2	2.8	2.3	1.9
35	9.36	1.13	1.14	5.3	4.3	3.6	3.1	2.7	2.1	1.8
36	9.10	1.20	1.17	5.1	4.0	3.4	2.9	2.5	2.0	1.7
37	8.85	1.26	1.20	4.8	3.8	3.2	2.7	2.4	1.9	1.6
38	8.62	1.33	1.24	4.5	3.6	3.0	2.6	2.3	1.8	1.5
39	8.40	1.40	1.27	4.3	3.4	2.9	2.5	2.2	1.7	1.4

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

**15-INCH I BEAM, No. 1, LIGHT,
50 LBS. PER FOOT.**

Depth, 15". Width of Flanges, 5.03". Thickness of Web, 0.47".
Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	28.24	0.09	0.25	56.5	45.2	37.7	32.3	28.2	22.6	18.8
11	25.67	0.11	0.28	46.7	37.4	31.1	26.7	23.3	18.7	15.6
12	23.53	0.13	0.30	39.2	31.4	26.1	22.4	19.6	15.7	13.1
13	21.72	0.16	0.33	33.4	26.7	22.3	19.1	16.7	13.4	11.1
14	20.17	0.18	0.35	28.8	23.0	19.2	16.5	14.4	11.5	9.6
15	18.83	0.21	0.38	25.1	20.1	16.7	14.3	12.6	10.0	8.4
16	17.65	0.24	0.40	22.1	17.7	14.7	12.6	11.0	8.8	7.4
17	16.61	0.27	0.43	19.5	15.6	13.0	11.1	9.8	7.8	6.5
18	15.69	0.30	0.45	17.4	13.9	11.6	9.9	8.7	7.0	5.8
19	14.86	0.33	0.48	15.6	12.5	10.4	8.9	7.8	6.2	5.2
20	14.12	0.37	0.50	14.1	11.3	9.4	8.1	7.1	5.6	4.7
21	13.45	0.41	0.53	12.8	10.2	8.5	7.3	6.4	5.1	4.3
22	12.84	0.45	0.55	11.7	9.3	7.8	6.7	5.8	4.7	3.9
23	12.28	0.49	0.58	10.7	8.6	7.1	6.1	5.3	4.3	3.6
24	11.77	0.53	0.60	9.8	7.8	6.5	5.6	4.9	3.9	3.3
25	11.30	0.58	0.63	9.0	7.2	6.0	5.1	4.5	3.6	3.0
26	10.86	0.62	0.65	8.4	6.7	5.6	4.8	4.2	3.4	2.8
27	10.46	0.67	0.68	7.7	6.2	5.1	4.4	3.9	3.1	2.6
28	10.09	0.72	0.70	7.2	5.8	4.8	4.1	3.6	2.9	2.4
29	9.74	0.78	0.73	6.7	5.4	4.5	3.8	3.4	2.7	2.2
30	9.41	0.83	0.75	6.3	5.0	4.2	3.6	3.1	2.5	2.1
31	9.11	0.89	0.78	5.9	4.7	3.9	3.4	2.9	2.4	2.0
32	8.83	0.94	0.80	5.5	4.4	3.7	3.2	2.8	2.2	1.8
33	8.56	1.00	0.83	5.2	4.2	3.5	3.0	2.6	2.1	1.7
34	8.31	1.07	0.85	4.9	3.9	3.3	2.8	2.4	2.0	1.6
35	8.07	1.13	0.88	4.6	3.7	3.1	2.6	2.3	1.8	1.5
36	7.84	1.19	0.90	4.4	3.5	2.9	2.5	2.2	1.7	1.5
37	7.63	1.26	0.93	4.1	3.3	2.7	2.4	2.1	1.6	1.4
38	7.43	1.33	0.95	3.9	3.1	2.6	2.2	2.0	1.6	1.3
39	7.24	1.40	0.98	3.7	3.0	2.5	2.1	1.9	1.5	1.2

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

12-INCH I BEAM, No. 3, HEAVY, 60 LBS. PER FOOT.

Depth, 12". Width of Flanges, 5.09". Thickness of Web, 0.96".
Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	22.68	0.12	0.30	45.4	36.3	30.2	25.9	22.7	18.1	15.1
11	20.62	0.14	0.33	37.5	30.0	25.0	21.4	18.7	15.0	12.5
12	18.90	0.17	0.36	31.5	25.2	21.0	18.0	15.8	12.6	10.5
13	17.45	0.20	0.39	26.8	21.5	17.9	15.3	13.4	10.7	8.9
14	16.20	0.23	0.42	23.1	18.5	15.4	13.2	11.6	9.3	7.7
15	15.12	0.26	0.45	20.2	16.1	13.4	11.5	10.1	8.1	6.7
16	14.18	0.30	0.48	17.7	14.2	11.8	10.1	8.9	7.1	5.9
17	13.34	0.33	0.51	15.7	12.6	10.5	9.0	7.8	6.3	5.2
18	12.60	0.37	0.54	14.0	11.2	9.3	8.0	7.0	5.6	4.7
19	11.94	0.42	0.57	12.6	10.1	8.4	7.2	6.3	5.0	4.2
20	11.34	0.46	0.60	11.3	9.1	7.6	6.5	5.7	4.5	3.8
21	10.80	0.51	0.63	10.3	8.2	6.9	5.9	5.2	4.1	3.4
22	10.31	0.56	0.66	9.4	7.5	6.2	5.4	4.7	3.7	3.1
23	9.86	0.61	0.69	8.6	6.9	5.7	4.9	4.3	3.4	2.9
24	9.45	0.66	0.72	7.9	6.3	5.3	4.5	3.9	3.1	2.6
25	9.07	0.72	0.75	7.3	5.8	4.9	4.2	3.6	2.9	2.4
26	8.72	0.78	0.78	6.7	5.4	4.5	3.9	3.3	2.7	2.2
27	8.40	0.84	0.81	6.2	5.0	4.2	3.6	3.1	2.5	2.1
28	8.10	0.90	0.84	5.8	4.6	3.9	3.3	2.9	2.3	1.9
29	7.82	0.97	0.87	5.4	4.3	3.6	3.1	2.7	2.1	1.8
30	7.56	1.04	0.90	5.0	4.0	3.4	2.9	2.5	2.0	1.7
31	7.32	1.11	0.93	4.7	3.8	3.2	2.7	2.4	1.9	1.6
32	7.09	1.18	0.96	4.4	3.5	3.0	2.5	2.2	1.8	1.5
33	6.87	1.26	0.99	4.2	3.3	2.8	2.4	2.1	1.7	1.4
34	6.67	1.34	1.02	3.9	3.1	2.6	2.2	2.0	1.6	1.3
35	6.48	1.42	1.05	3.7	3.0	2.5	2.1	1.9	1.5	1.2
36	6.30	1.50	1.08	3.5	2.8	2.3	2.0	1.8	1.4	1.2
37	6.13	1.58	1.11	3.3	2.6	2.2	1.9	1.7	1.3	1.1
38	5.97	1.67	1.14	3.1	2.5	2.1	1.8	1.6	1.3	1.0
39	5.82	1.76	1.17	3.0	2.4	2.0	1.7	1.5	1.2	1.0

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

12-INCH I BEAM, No. 3, LIGHT, 42 LBS. PER FOOT.

Depth, 12". Width of Flanges, 4.64". Thickness of Web, 0.51"
Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	18.36	0.12	0.21	36.7	29.4	24.5	21.0	18.4	14.7	12.2
11	16.69	0.14	0.23	30.3	24.3	20.2	17.3	15.2	12.1	10.1
12	15.30	0.17	0.25	25.5	20.4	17.0	14.6	12.8	10.2	8.5
13	14.12	0.20	0.27	21.7	17.4	14.5	12.4	10.9	8.7	7.2
14	13.11	0.23	0.29	18.7	15.0	12.5	10.7	9.4	7.5	6.2
15	12.24	0.26	0.32	16.3	13.1	10.9	9.3	8.2	6.5	5.4
16	11.48	0.30	0.34	14.4	11.5	9.6	8.2	7.2	5.7	4.8
17	10.80	0.33	0.36	12.7	10.2	8.5	7.3	6.4	5.1	4.2
18	10.20	0.37	0.38	11.3	9.1	7.6	6.5	5.7	4.5	3.8
19	9.66	0.42	0.40	10.2	8.1	6.8	5.8	5.1	4.1	3.4
20	9.18	0.46	0.42	9.2	7.3	6.1	5.2	4.6	3.7	3.1
21	8.74	0.51	0.44	8.3	6.7	5.5	4.8	4.2	3.3	2.8
22	8.35	0.56	0.46	7.6	6.1	5.0	4.3	3.8	3.0	2.5
23	7.98	0.61	0.48	6.9	5.6	4.6	4.0	3.5	2.8	2.3
24	7.65	0.66	0.50	6.4	5.1	4.2	3.6	3.2	2.6	2.1
25	7.34	0.72	0.53	5.9	4.7	3.9	3.3	2.9	2.4	2.0
26	7.06	0.78	0.55	5.4	4.3	3.6	3.1	2.7	2.2	1.8
27	6.80	0.84	0.57	5.0	4.0	3.3	2.9	2.5	2.0	1.7
28	6.56	0.90	0.59	4.7	3.7	3.1	2.7	2.3	1.9	1.6
29	6.33	0.97	0.61	4.4	3.5	2.9	2.5	2.2	1.7	1.5
30	6.12	1.04	0.63	4.1	3.3	2.7	2.3	2.0	1.6	1.4
31	5.92	1.11	0.65	3.8	3.1	2.5	2.2	1.9	1.5	1.3
32	5.74	1.18	0.67	3.6	2.9	2.3	2.0	1.8	1.4	1.2
33	5.56	1.26	0.69	3.4	2.7	2.2	1.9	1.7	1.3	1.1
34	5.40	1.34	0.71	3.2	2.5	2.1	1.8	1.6	1.3	1.1
35	5.25	1.42	0.74	3.0	2.4	2.0	1.7	1.5	1.2	1.0
36	5.10	1.50	0.76	2.8	2.2	1.9	1.6	1.4	1.1	0.9
37	4.96	1.58	0.78	2.6	2.1	1.8	1.5	1.3	1.1	0.9
38	4.83	1.67	0.80	2.5	2.0	1.7	1.5	1.3	1.0	0.8
39	4.71	1.76	0.82	2.4	1.9	1.6	1.4	1.2	1.0	0.8

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

10½-INCH I BEAM, No. 4, HEAVY, 45 LBS. PER FOOT.

Depth, 10½". Width of Flanges, 4.92". Thickness of Web, 0.79".
Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet	Safe load, uniformly distributed, (including weight of beam) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	15.32	0.13	0.23	30.6	24.5	20.4	17.5	15.3	12.3	10.2
11	13.93	0.16	0.25	25.8	20.3	16.9	14.5	12.7	10.1	8.4
12	12.77	0.19	0.27	21.3	17.0	14.2	12.2	10.6	8.5	7.1
13	11.78	0.22	0.29	18.1	14.5	12.1	10.4	9.1	7.2	6.0
14	10.94	0.26	0.32	15.6	12.5	10.4	8.9	7.8	6.3	5.2
15	10.21	0.30	0.34	13.6	10.9	9.1	7.8	6.8	5.4	4.5
16	9.58	0.34	0.36	12.0	9.6	8.0	6.8	6.0	4.8	4.0
17	9.01	0.38	0.38	10.6	8.5	7.1	6.1	5.3	4.2	3.5
18	8.51	0.43	0.41	9.5	7.6	6.3	5.4	4.7	3.8	3.1
19	8.06	0.48	0.43	8.5	6.8	5.7	4.8	4.2	3.4	2.8
20	7.66	0.53	0.45	7.7	6.1	5.1	4.4	3.8	3.1	2.5
21	7.30	0.58	0.47	7.0	5.6	4.6	4.0	3.5	2.8	2.3
22	6.96	0.64	0.50	6.3	5.1	4.2	3.6	3.2	2.5	2.1
23	6.66	0.70	0.52	5.8	4.6	3.9	3.3	2.9	2.3	1.9
24	6.38	0.76	0.54	5.3	4.2	3.6	3.0	2.7	2.1	1.8
25	6.13	0.82	0.56	4.9	3.9	3.3	2.8	2.5	1.9	1.6
26	5.89	0.89	0.59	4.5	3.6	3.0	2.6	2.3	1.8	1.5
27	5.67	0.96	0.61	4.2	3.4	2.8	2.4	2.1	1.7	1.4
28	5.47	1.03	0.63	3.9	3.1	2.6	2.2	2.0	1.6	1.3
29	5.28	1.11	0.65	3.6	2.9	2.4	2.1	1.8	1.5	1.2
30	5.11	1.19	0.68	3.4	2.7	2.3	1.9	1.7	1.4	1.1
31	4.94	1.27	0.70	3.2	2.6	2.1	1.8	1.6	1.3	1.1
32	4.79	1.35	0.72	3.0	2.4	2.0	1.7	1.5	1.2	1.0
33	4.64	1.44	0.74	2.8	2.2	1.9	1.6	1.4	1.1	.9
34	4.51	1.53	0.77	2.7	2.1	1.8	1.5	1.3	1.1	.9
35	4.38	1.62	0.79	2.5	2.0	1.7	1.4	1.3	1.0	.8
36	4.26	1.71	0.81	2.4	1.9	1.6	1.4	1.2	.9	.8
37	4.14	1.80	0.83	2.2	1.8	1.5	1.3	1.1	.9	.7
38	4.03	1.90	0.86	2.1	1.7	1.4	1.2	1.1	.8	.7
39	3.93	2.01	0.88	2.0	1.6	1.3	1.2	1.0	.8	.7

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

**10½-INCH I BEAM. No. 4, LIGHT,
31½ LBS. PER FOOT.**

Depth, 10½". Width of Flanges, 4.54". Thickness of Web, 0.41".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	12.56	0.13	0.16	25.1	20.1	16.7	14.4	12.6	10.0	8.4
11	11.42	0.16	0.17	20.8	16.6	13.8	11.9	10.4	8.3	6.9
12	10.47	0.19	0.19	17.5	14.0	11.6	10.0	8.7	7.0	5.8
13	9.66	0.22	0.21	14.9	11.9	9.9	8.5	7.4	5.9	5.0
14	8.97	0.26	0.22	12.8	10.2	8.5	7.3	6.4	5.1	4.3
15	8.37	0.30	0.24	11.2	8.9	7.4	6.4	5.6	4.5	3.7
16	7.85	0.34	0.25	9.8	7.8	6.5	5.6	4.9	3.9	3.3
17	7.39	0.38	0.27	8.7	7.0	5.8	5.0	4.3	3.5	2.9
18	6.98	0.43	0.28	7.8	6.2	5.2	4.4	3.9	3.1	2.6
19	6.61	0.48	0.30	7.0	5.6	4.6	4.0	3.5	2.8	2.3
20	6.28	0.53	0.32	6.3	5.0	4.2	3.6	3.1	2.5	2.1
21	5.98	0.58	0.33	5.7	4.6	3.8	3.3	2.8	2.3	1.9
22	5.71	0.64	0.35	5.2	4.2	3.5	3.0	2.6	2.1	1.7
23	5.46	0.70	0.36	4.8	3.8	3.2	2.7	2.4	1.9	1.6
24	5.23	0.76	0.38	4.4	3.5	2.9	2.5	2.2	1.7	1.5
25	5.02	0.82	0.39	4.0	3.2	2.7	2.3	2.0	1.6	1.3
26	4.83	0.89	0.41	3.7	3.0	2.5	2.1	1.9	1.5	1.2
27	4.65	0.96	0.43	3.4	2.8	2.3	2.0	1.7	1.4	1.1
28	4.49	1.03	0.44	3.2	2.6	2.1	1.8	1.6	1.3	1.1
29	4.33	1.11	0.46	3.0	2.4	2.0	1.7	1.5	1.2	1.0
30	4.19	1.19	0.47	2.8	2.2	1.9	1.6	1.4	1.1	.9
31	4.05	1.27	0.49	2.6	2.1	1.7	1.5	1.3	1.0	.9
32	3.93	1.35	0.50	2.5	2.0	1.6	1.4	1.2	1.0	.8
33	3.81	1.44	0.52	2.3	1.8	1.5	1.3	1.2	.9	.8
34	3.69	1.53	0.54	2.2	1.7	1.4	1.2	1.1	.9	.7
35	3.59	1.62	0.55	2.1	1.6	1.4	1.2	1.0	.8	.7
36	3.49	1.71	0.57	1.9	1.6	1.3	1.1	1.0	.8	.6
37	3.39	1.80	0.58	1.8	1.5	1.2	1.1	.9	.7	.6
38	3.31	1.90	0.60	1.7	1.4	1.2	1.0	.9	.7	.6
39	3.22	2.01	0.61	1.7	1.3	1.1	.9	.8	.7	.6

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

10-INCH I BEAM, No. 5, HEAVY, 45 LBS. PER FOOT.

**Depth, 10". Width of Flanges, 4.77". Thickness of Web, 0.77".
Maximum fiber strain = 12000 lbs. per square inch.**

Distance between supports, in feet	Safe load, uniformly distributed, (including weight of beam) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of							
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.	
10	15.00	0.14	0.23	30.0	24.0	20.0	17.1	15.0	12.0	10.0	
11	13.64	0.17	0.25	24.8	19.8	16.5	14.2	12.4	9.9	8.3	
12	12.50	0.20	0.27	20.8	16.7	13.9	11.6	10.4	8.3	6.9	
13	11.54	0.23	0.29	17.8	14.2	11.8	10.1	8.9	7.1	5.9	
14	10.71	0.27	0.32	15.3	12.2	10.2	8.7	7.7	6.1	5.1	
15	10.00	0.31	0.34	13.3	10.7	8.9	7.6	6.7	5.3	4.4	
16	9.38	0.35	0.36	11.7	9.4	7.8	6.7	5.9	4.7	3.9	
17	8.82	0.40	0.38	10.4	8.3	6.9	5.9	5.2	4.2	3.5	
18	8.33	0.45	0.41	9.3	7.4	6.2	5.3	4.6	3.7	3.1	
19	7.89	0.50	0.43	8.3	6.6	5.5	4.7	4.2	3.3	2.8	
20	7.50	0.55	0.45	7.5	6.0	5.0	4.3	3.8	3.0	2.5	
21	7.14	0.61	0.47	6.8	5.4	4.5	3.9	3.4	2.7	2.3	
22	6.82	0.67	0.50	6.2	5.0	4.1	3.5	3.1	2.5	2.1	
23	6.52	0.73	0.52	5.7	4.5	3.8	3.2	2.8	2.3	1.9	
24	6.25	0.80	0.54	5.2	4.1	3.5	2.9	2.6	2.1	1.7	
25	6.00	0.87	0.56	4.8	3.8	3.2	2.7	2.4	1.9	1.6	
26	5.77	0.94	0.59	4.4	3.6	3.0	2.5	2.2	1.8	1.5	
27	5.56	1.01	0.61	4.1	3.3	2.8	2.4	2.1	1.6	1.4	
28	5.36	1.09	0.63	3.8	3.1	2.6	2.2	1.9	1.5	1.3	
29	5.17	1.17	0.65	3.6	2.9	2.4	2.0	1.8	1.4	1.2	
30	5.00	1.25	0.68	3.3	2.7	2.2	1.9	1.7	1.3	1.1	
31	4.84	1.33	0.70	3.1	2.5	2.1	1.8	1.6	1.2	1.0	
32	4.69	1.42	0.72	2.9	2.3	1.9	1.7	1.5	1.2	1.0	
33	4.55	1.51	0.74	2.8	2.2	1.8	1.6	1.4	1.1	.9	
34	4.41	1.60	0.77	2.6	2.1	1.7	1.5	1.3	1.0	.9	
35	4.29	1.70	0.79	2.4	2.0	1.6	1.4	1.2	1.0	.8	
36	4.17	1.80	0.81	2.3	1.9	1.5	1.3	1.2	.9	.8	
37	4.05	1.90	0.83	2.2	1.8	1.5	1.3	1.1	.9	.7	
38	3.95	2.01	0.86	2.1	1.7	1.4	1.2	1.0	.8	.7	
39	3.85	2.11	0.88	2.0	1.6	1.3	1.1	1.0	.8	.7	

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

10-INCH I BEAM, No. 5, LIGHT, 30 LBS. PER FOOT.

Depth, 10". Width of Flanges, 4.32". Thickness of Web, 0.32".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet,	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	12.00	0.14	0.15	24.0	19.2	16.0	13.7	12.0	9.6	8.0
11	10.91	0.17	0.17	19.8	15.9	13.2	11.3	9.9	7.9	6.6
12	10.00	0.20	0.18	16.7	13.3	11.1	9.5	8.3	6.7	5.6
13	9.23	0.23	0.20	14.2	11.4	9.5	8.1	7.1	5.7	4.7
14	8.57	0.27	0.21	12.2	9.8	8.2	7.0	6.1	4.9	4.1
15	8.00	0.31	0.23	10.7	8.5	7.1	6.1	5.3	4.3	3.6
16	7.50	0.35	0.24	9.4	7.5	6.3	5.4	4.7	3.8	3.1
17	7.06	0.40	0.26	8.3	6.6	5.5	4.7	4.2	3.3	2.8
18	6.67	0.45	0.27	7.4	5.9	4.9	4.2	3.7	3.0	2.5
19	6.32	0.50	0.29	6.7	5.3	4.4	3.8	3.3	2.7	2.2
20	6.00	0.55	0.30	6.0	4.8	4.0	3.4	3.0	2.4	2.0
21	5.71	0.61	0.32	5.4	4.4	3.6	3.1	2.7	2.2	1.8
22	5.45	0.67	0.33	5.0	4.0	3.3	2.8	2.5	2.0	1.7
23	5.22	0.73	0.35	4.5	3.6	3.0	2.6	2.3	1.8	1.5
24	5.00	0.80	0.36	4.2	3.3	2.8	2.4	2.1	1.7	1.4
25	4.80	0.87	0.38	3.8	3.1	2.6	2.2	1.9	1.5	1.3
26	4.62	0.94	0.39	3.6	2.8	2.4	2.0	1.8	1.4	1.2
27	4.44	1.01	0.41	3.3	2.6	2.2	1.9	1.6	1.3	1.1
28	4.29	1.09	0.42	3.1	2.4	2.0	1.7	1.5	1.2	1.0
29	4.14	1.17	0.44	2.9	2.3	1.9	1.6	1.4	1.1	.9
30	4.00	1.25	0.45	2.7	2.1	1.8	1.5	1.3	1.1	.9
31	3.87	1.33	0.47	2.5	2.0	1.7	1.4	1.2	1.0	.8
32	3.75	1.42	0.48	2.3	1.9	1.6	1.3	1.2	.9	.8
33	3.64	1.51	0.50	2.2	1.8	1.5	1.3	1.1	.9	.7
34	3.53	1.60	0.51	2.1	1.7	1.4	1.2	1.0	.8	.7
35	3.43	1.70	0.53	2.0	1.6	1.3	1.1	1.0	.8	.7
36	3.33	1.80	0.54	1.9	1.5	1.2	1.1	.9	.7	.6
37	3.24	1.90	0.56	1.8	1.4	1.2	1.0	.9	.7	.6
38	3.16	2.01	0.57	1.7	1.3	1.1	.9	.8	.7	.6
39	3.08	2.11	0.59	1.6	1.3	1.1	.9	.8	.6	.5

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

9-INCH I BEAM, No. 6, HEAVY, 33 LBS. PER FOOT.

Depth, 9". Width of Flanges, 4.33". Thickness of Web, 0.58".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet	Safe load, uniformly distributed, (including weight of beam) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	10.40	0.15	0.17	20.8	16.6	13.9	11.9	10.4	8.3	6.9
11	9.45	0.19	0.18	17.2	13.8	11.5	9.8	8.6	6.9	5.7
12	8.67	0.22	0.20	14.5	11.6	9.6	8.3	7.2	5.8	4.8
13	8.00	0.26	0.22	12.3	9.8	8.2	7.0	6.2	4.9	4.1
14	7.43	0.30	0.23	10.6	8.5	7.1	6.1	5.3	4.2	3.5
15	6.93	0.35	0.25	9.2	7.4	6.2	5.3	4.6	3.7	3.1
16	6.50	0.40	0.26	8.1	6.5	5.4	4.6	4.1	3.3	2.7
17	6.12	0.45	0.28	7.2	5.8	4.8	4.1	3.6	2.9	2.4
18	5.78	0.50	0.30	6.4	5.1	4.3	3.7	3.2	2.6	2.1
19	5.47	0.56	0.31	5.8	4.6	3.8	3.3	2.9	2.3	1.9
20	5.20	0.62	0.33	5.2	4.2	3.5	3.0	2.6	2.1	1.7
21	4.95	0.68	0.35	4.7	3.8	3.1	2.7	2.4	1.9	1.6
22	4.73	0.75	0.36	4.3	3.4	2.9	2.5	2.2	1.7	1.4
23	4.52	0.82	0.38	3.9	3.1	2.6	2.3	2.0	1.6	1.3
24	4.33	0.89	0.40	3.6	2.9	2.4	2.1	1.8	1.4	1.2
25	4.16	0.96	0.41	3.3	2.7	2.2	1.9	1.7	1.3	1.1
26	4.00	1.04	0.43	3.1	2.5	2.1	1.8	1.5	1.2	1.0
27	3.85	1.12	0.45	2.9	2.3	1.9	1.6	1.4	1.1	.9
28	3.71	1.20	0.46	2.7	2.1	1.8	1.5	1.3	1.1	.9
29	3.59	1.29	0.48	2.5	2.0	1.6	1.4	1.2	1.0	.8
30	3.47	1.39	0.50	2.3	1.8	1.5	1.3	1.2	.9	.8
31	3.35	1.48	0.51	2.2	1.7	1.4	1.2	1.1	.9	.7
32	3.25	1.58	0.53	2.0	1.6	1.4	1.1	1.0	.8	.7
33	3.15	1.68	0.55	1.9	1.5	1.3	1.1	1.0	.8	.6
34	3.06	1.78	0.56	1.8	1.4	1.2	1.0	.9	.7	.6
35	2.97	1.89	0.58	1.7	1.4	1.1	1.0	.9	.7	.6
36	2.89	2.00	0.59	1.6	1.3	1.1	.9	.8	.6	.5
37	2.81	2.11	0.61	1.5	1.2	1.0	.9	.8	.6	.5
38	2.74	2.22	0.63	1.4	1.2	1.0	.8	.7	.6	.5
39	2.67	2.34	0.64	1.4	1.1	.9	.8	.7	.5	.5

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

9-INCH I BEAM, No. 6, LIGHT, 23½ LBS. PER FOOT.

Depth, 9". Width of Flanges, 4.01". Thickness of Web, 0.26".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	8.68	0.15	0.12	17.4	13.9	11.6	9.9	8.7	6.9	5.8
11	7.89	0.19	0.13	14.4	11.5	9.6	8.2	7.2	5.7	4.8
12	7.23	0.22	0.14	12.1	9.6	8.0	6.9	6.0	4.8	4.0
13	6.68	0.26	0.15	10.3	8.2	6.9	5.9	5.1	4.1	3.4
14	6.20	0.30	0.16	8.9	7.1	5.9	5.1	4.4	3.5	2.9
15	5.79	0.35	0.18	7.7	6.2	5.1	4.4	3.9	3.1	2.6
16	5.43	0.40	0.19	6.8	5.4	4.5	3.9	3.4	2.7	2.3
17	5.11	0.45	0.20	6.0	4.8	4.0	3.4	3.0	2.4	2.0
18	4.82	0.50	0.21	5.4	4.3	3.6	3.0	2.7	2.1	1.8
19	4.57	0.56	0.22	4.8	3.8	3.2	2.7	2.4	1.9	1.6
20	4.34	0.62	0.24	4.3	3.5	2.9	2.5	2.2	1.7	1.4
21	4.13	0.68	0.25	3.9	3.2	2.6	2.2	2.0	1.6	1.3
22	3.95	0.75	0.26	3.6	2.9	2.4	2.0	1.8	1.4	1.2
23	3.77	0.82	0.27	3.3	2.6	2.2	1.9	1.6	1.3	1.1
24	3.62	0.89	0.28	3.0	2.4	2.0	1.7	1.5	1.2	1.0
25	3.47	0.96	0.29	2.8	2.2	1.9	1.6	1.4	1.1	.9
26	3.34	1.04	0.31	2.6	2.0	1.7	1.5	1.3	1.0	.9
27	3.21	1.12	0.32	2.4	1.9	1.6	1.4	1.2	1.0	.8
28	3.10	1.20	0.33	2.2	1.8	1.5	1.3	1.1	.9	.7
29	2.99	1.29	0.34	2.1	1.6	1.4	1.2	1.0	.8	.7
30	2.89	1.39	0.35	1.9	1.5	1.3	1.1	1.0	.8	.6
31	2.80	1.48	0.36	1.8	1.4	1.2	1.0	.9	.7	.6
32	2.71	1.58	0.38	1.7	1.4	1.1	1.0	.9	.7	.6
33	2.63	1.68	0.39	1.6	1.3	1.1	.9	.8	.6	.5
34	2.55	1.78	0.40	1.5	1.2	1.0	.9	.8	.6	.5
35	2.48	1.89	0.41	1.4	1.1	.9	.8	.7	.6	.5
36	2.41	2.00	0.42	1.3	1.1	.9	.8	.7	.5	.4
37	2.35	2.11	0.43	1.3	1.0	.8	.7	.6	.5	.4
38	2.28	2.22	0.45	1.2	1.0	.8	.7	.6	.5	.4
39	2.23	2.34	0.46	1.2	.9	.8	.7	.6	.5	.4

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

8-INCH I BEAM, No. 8, HEAVY, 35 LBS. PER FOOT.

Depth, 8". Width of Flanges, 4.29". Thickness of Web, 0.79".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet	Safe load, uniformly distributed, (including weight of beam) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	18.08	0.04	0.09	72.3	57.9	48.2	41.3	36.2	28.9	24.1
6	15.07	0.06	0.11	50.2	40.2	33.5	28.7	25.1	20.1	16.7
7	12.91	0.08	0.12	36.9	29.5	24.6	21.1	18.4	14.8	12.3
8	11.30	0.11	0.14	28.3	22.6	18.8	16.1	14.1	11.3	9.4
9	10.04	0.14	0.16	22.3	17.8	14.9	12.7	11.2	8.9	7.4
10	9.04	0.17	0.18	18.1	14.5	12.1	10.3	9.0	7.2	6.0
11	8.22	0.21	0.19	14.9	12.0	10.0	8.5	7.5	6.0	5.0
12	7.53	0.25	0.21	12.6	10.0	8.4	7.2	6.3	5.0	4.2
13	6.95	0.29	0.23	10.7	8.6	7.1	6.1	5.3	4.3	3.6
14	6.46	0.34	0.25	9.2	7.4	6.2	5.3	4.6	3.7	3.1
15	6.03	0.39	0.26	8.0	6.4	5.4	4.6	4.0	3.2	2.7
16	5.65	0.44	0.28	7.1	5.6	4.7	4.0	3.5	2.8	2.4
17	5.32	0.50	0.30	6.3	5.0	4.2	3.6	3.1	2.5	2.1
18	5.02	0.56	0.32	5.6	4.5	3.7	3.2	2.8	2.2	1.9
19	4.76	0.62	0.33	5.0	4.0	3.3	2.9	2.5	2.0	1.7
20	4.52	0.69	0.35	4.5	3.6	3.0	2.6	2.3	1.8	1.5
21	4.30	0.76	0.37	4.1	3.3	2.7	2.3	2.0	1.6	1.4
22	4.11	0.84	0.39	3.7	3.0	2.5	2.1	1.9	1.5	1.2
23	3.93	0.92	0.40	3.4	2.7	2.3	2.0	1.7	1.4	1.1
24	3.77	1.00	0.42	3.1	2.5	2.1	1.8	1.6	1.3	1.0
25	3.62	1.08	0.44	2.9	2.3	1.9	1.7	1.4	1.2	1.0
26	3.48	1.17	0.46	2.7	2.1	1.8	1.5	1.3	1.1	.9
27	3.35	1.26	0.47	2.5	2.0	1.6	1.4	1.2	1.0	.8
28	3.23	1.36	0.49	2.3	1.8	1.5	1.3	1.2	.9	.8
29	3.12	1.46	0.51	2.2	1.7	1.4	1.2	1.1	.9	.7
30	3.01	1.56	0.53	2.0	1.6	1.3	1.1	1.0	.8	.7
31	2.92	1.67	0.54	1.9	1.5	1.2	1.1	.9	.8	.6
32	2.83	1.78	0.56	1.8	1.4	1.2	1.0	.9	.7	.6
33	2.74	1.89	0.58	1.7	1.3	1.1	.9	.8	.7	.6
34	2.66	2.00	0.60	1.6	1.2	1.0	.9	.8	.6	.5

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

**8-INCH I BEAM, No. 8, LIGHT,
22 LBS. PER FOOT.**

Depth, 8". Width of Flanges, 3.81". Thickness of Web, 0.31".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	14.00	0.04	0.06	56.0	44.8	37.3	32.0	28.0	22.4	18.7
6	11.67	0.06	0.07	38.9	31.1	25.9	22.2	19.5	15.6	13.0
7	10.00	0.08	0.08	28.6	22.9	19.0	16.3	14.3	11.4	9.5
8	8.75	0.11	0.09	21.9	17.5	14.6	12.5	10.9	8.8	7.3
9	7.78	0.14	0.10	17.3	13.8	11.5	9.9	8.6	6.9	5.8
10	7.00	0.17	0.11	14.0	11.2	9.3	8.0	7.0	5.6	4.7
11	6.36	0.21	0.12	11.6	9.2	7.7	6.6	5.8	4.6	3.9
12	5.83	0.25	0.13	9.7	7.8	6.5	5.6	4.9	3.9	3.2
13	5.38	0.29	0.14	8.3	6.6	5.5	4.7	4.1	3.3	2.8
14	5.00	0.34	0.15	7.1	5.7	4.8	4.1	3.6	2.9	2.4
15	4.67	0.39	0.17	6.2	5.0	4.2	3.6	3.1	2.5	2.1
16	4.38	0.44	0.18	5.5	4.4	3.7	3.1	2.7	2.2	1.8
17	4.12	0.50	0.19	4.9	3.9	3.2	2.8	2.4	1.9	1.6
18	3.89	0.56	0.20	4.3	3.5	2.9	2.5	2.2	1.7	1.4
19	3.68	0.62	0.21	3.9	3.1	2.6	2.2	1.9	1.5	1.3
20	3.50	0.69	0.22	3.5	2.8	2.3	2.0	1.8	1.4	1.2
21	3.33	0.76	0.23	3.2	2.5	2.1	1.8	1.6	1.3	1.1
22	3.18	0.84	0.24	2.9	2.3	1.9	1.7	1.4	1.2	1.0
23	3.04	0.92	0.25	2.6	2.1	1.8	1.5	1.3	1.1	.9
24	2.92	1.00	0.26	2.4	1.9	1.6	1.4	1.2	1.0	.8
25	2.80	1.08	0.28	2.2	1.8	1.5	1.3	1.1	.9	.7
26	2.69	1.17	0.29	2.1	1.7	1.4	1.2	1.0	.8	.7
27	2.59	1.26	0.30	1.9	1.5	1.3	1.1	1.0	.8	.6
28	2.50	1.36	0.31	1.8	1.4	1.2	1.0	.9	.7	.6
29	2.41	1.46	0.32	1.7	1.3	1.1	.9	.8	.7	.6
30	2.33	1.56	0.33	1.6	1.2	1.0	.9	.8	.6	.5
31	2.26	1.67	0.34	1.5	1.2	1.0	.8	.7	.6	.5
32	2.19	1.78	0.35	1.4	1.1	.9	.8	.7	.5	.5
33	2.12	1.89	0.36	1.3	1.0	.9	.7	.6	.5	.4
34	2.06	2.00	0.37	1.2	1.0	.8	.7	.6	.5	.4

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

7-INCH I BEAM, No. 8, HEAVY, 25 LBS. PER FOOT.

Depth, 7". Width of Flanges, 3.91". Thickness of Web, 0.53"
Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	12.40	0.05	0.06	49.6	39.7	33.1	28.3	24.8	19.8	16.5
6	10.33	0.07	0.08	34.4	27.5	23.0	19.7	17.2	13.8	11.5
7	8.86	0.10	0.09	25.3	20.2	16.9	14.5	12.7	10.1	8.4
8	7.75	0.13	0.10	19.4	15.5	12.9	11.1	9.7	7.8	6.5
9	6.89	0.16	0.11	15.3	12.2	10.2	8.7	7.7	6.1	5.1
10	6.20	0.20	0.13	12.4	9.9	8.3	7.1	6.2	5.0	4.1
11	5.64	0.24	0.14	10.3	8.2	6.8	5.9	5.1	4.1	3.4
12	5.17	0.28	0.15	8.6	6.9	5.7	4.9	4.3	3.4	2.9
13	4.77	0.33	0.16	7.3	5.9	4.9	4.2	3.7	2.9	2.4
14	4.43	0.39	0.18	6.3	5.1	4.2	3.6	3.2	2.5	2.1
15	4.13	0.45	0.19	5.5	4.4	3.7	3.1	2.8	2.2	1.8
16	3.88	0.51	0.20	4.9	3.9	3.2	2.8	2.4	1.9	1.6
17	3.65	0.57	0.21	4.3	3.4	2.9	2.5	2.1	1.7	1.4
18	3.44	0.64	0.23	3.8	3.1	2.5	2.2	1.9	1.5	1.3
19	3.26	0.71	0.24	3.4	2.7	2.3	2.0	1.7	1.4	1.1
20	3.10	0.79	0.25	3.1	2.5	2.1	1.8	1.5	1.2	1.0
21	2.95	0.87	0.26	2.8	2.2	1.9	1.6	1.4	1.1	.9
22	2.82	0.96	0.28	2.6	2.0	1.7	1.5	1.3	1.0	.9
23	2.70	1.05	0.29	2.4	1.9	1.6	1.3	1.2	.9	.8
24	2.58	1.14	0.30	2.2	1.7	1.4	1.2	1.1	.9	.7
25	2.48	1.24	0.31	2.0	1.6	1.3	1.1	1.0	.8	.7
26	2.38	1.34	0.33	1.8	1.5	1.2	1.0	.9	.7	.6
27	2.30	1.44	0.34	1.7	1.4	1.1	1.0	.9	.7	.6
28	2.21	1.55	0.35	1.6	1.3	1.1	.9	.8	.6	.5
29	2.14	1.66	0.36	1.5	1.2	1.0	.8	.7	.6	.5

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

7-INCH I BEAM, No. 9, LIGHT, 18 LBS. PER FOOT.

Depth, 7". Width of Flanges, 3.61". Thickness of Web, 0.23".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	10.48	0.05	0.05	41.9	33.5	27.9	24.0	21.0	16.8	14.0
6	8.73	0.07	0.05	29.1	23.3	19.4	16.6	14.6	11.6	9.7
7	7.49	0.10	0.06	21.4	17.1	14.3	12.2	10.7	8.6	7.1
8	6.55	0.13	0.07	16.4	13.1	10.9	9.4	8.2	6.6	5.5
9	5.82	0.16	0.08	12.9	10.3	8.6	7.4	6.5	5.2	4.3
10	5.24	0.20	0.09	10.5	8.4	7.0	6.0	5.2	4.2	3.5
11	4.76	0.24	0.10	8.7	6.9	5.8	4.9	4.3	3.5	2.9
12	4.37	0.28	0.11	7.3	5.8	4.9	4.2	3.6	2.9	2.4
13	4.03	0.33	0.12	6.2	5.0	4.1	3.5	3.1	2.5	2.1
14	3.74	0.39	0.13	5.3	4.3	3.6	3.1	2.7	2.1	1.8
15	3.49	0.45	0.14	4.7	3.7	3.1	2.7	2.3	1.9	1.6
16	3.28	0.51	0.14	4.1	3.3	2.7	2.3	2.1	1.6	1.4
17	3.08	0.57	0.15	3.6	2.9	2.4	2.1	1.8	1.4	1.2
18	2.91	0.64	0.16	3.2	2.6	2.2	1.8	1.6	1.3	1.1
19	2.76	0.71	0.17	2.9	2.3	1.9	1.7	1.5	1.1	1.0
20	2.62	0.79	0.18	2.6	2.1	1.7	1.5	1.3	1.0	.9
21	2.50	0.87	0.19	2.4	1.9	1.6	1.4	1.2	1.0	.8
22	2.38	0.96	0.20	2.2	1.7	1.4	1.2	1.1	.9	.7
23	2.28	1.05	0.21	2.0	1.6	1.3	1.1	1.0	.8	.7
24	2.18	1.14	0.22	1.8	1.4	1.2	1.0	.9	.7	.6
25	2.10	1.24	0.23	1.7	1.3	1.1	1.0	.8	.7	.6
26	2.02	1.34	0.23	1.6	1.2	1.0	.9	.8	.6	.5
27	1.94	1.44	0.24	1.4	1.2	1.0	.8	.7	.6	.5
28	1.87	1.55	0.25	1.3	1.1	.9	.8	.7	.5	.4
29	1.81	1.66	0.26	1.2	1.0	.8	.7	.6	.5	.4

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

6-INCH I BEAM, No. 10, HEAVY, 18 LBS. PER FOOT.

Depth, 6". Width of Flanges, 3.46". Thickness of Web, 0.46"

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
			100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	7.58	0.06	30.3	24.3	20.2	17.3	15.2	12.1	10.1
6	6.32	0.08	21.1	16.9	14.0	12.0	10.5	8.4	7.0
7	5.42	0.11	15.5	12.4	10.3	8.9	7.7	6.2	5.2
8	4.74	0.15	11.9	9.5	7.9	6.8	5.9	4.7	4.0
9	4.21	0.19	9.4	7.5	6.2	5.3	4.7	3.7	3.1
10	3.79	0.23	7.6	6.1	5.1	4.3	3.8	3.0	2.5
11	3.45	0.28	6.3	5.0	4.2	3.6	3.1	2.5	2.1
12	3.16	0.33	5.3	4.2	3.5	3.0	2.6	2.1	1.8
13	2.92	0.39	4.5	3.6	3.0	2.6	2.2	1.8	1.5
14	2.71	0.45	3.9	3.1	2.6	2.2	1.9	1.5	1.3
15	2.53	0.52	3.4	2.7	2.2	1.9	1.7	1.3	1.1
16	2.37	0.59	3.0	2.4	2.0	1.7	1.5	1.2	1.0
17	2.23	0.67	2.6	2.1	1.7	1.5	1.3	1.0	.9
18	2.11	0.75	2.3	1.9	1.6	1.3	1.2	.9	.8
19	2.00	0.83	2.1	1.7	1.4	1.2	1.1	.8	.7
20	1.90	0.92	1.9	1.5	1.3	1.1	1.0	.8	.6
21	1.81	1.01	1.7	1.4	1.1	1.0	.9	.7	.6
22	1.72	1.11	1.6	1.2	1.0	.9	.8	.6	.5
23	1.65	1.22	1.4	1.1	1.0	.8	.7	.6	.5
24	1.58	1.33	1.3	1.1	.9	.8	.7	.5	.4
25	1.52	1.45	1.2	1.0	.8	.7	.6	.5	.4
26	1.46	1.56	1.1	.9	.7	.6	.6	.4	.4
27	1.40	1.68	1.0	.8	.7	.6	.5	.4	.3
28	1.35	1.81	1.0	.8	.6	.5	.5	.4	.3
29	1.31	1.95	.9	.7	.6	.5	.5	.4	.3

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

6-INCH I BEAM, No. 10, LIGHT, 13½ LBS. PER FOOT.

Depth, 6''. Width of Flanges, 3.24''. Thickness of Web, 0.24''.

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet,	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	6.53	0.06	0.03	26.1	20.9	17.4	14.9	13.1	10.4	8.7
6	5.44	0.08	0.04	18.1	14.5	12.1	10.4	9.1	7.3	6.0
7	4.66	0.11	0.05	13.3	10.6	8.9	7.6	6.7	5.3	4.4
8	4.08	0.15	0.05	10.2	8.2	6.8	5.8	5.1	4.1	3.4
9	3.63	0.19	0.06	8.1	6.5	5.4	4.6	4.0	3.2	2.7
10	3.26	0.23	0.07	6.5	5.2	4.4	3.7	3.3	2.6	2.2
11	2.97	0.28	0.07	5.4	4.3	3.6	3.1	2.7	2.2	1.8
12	2.72	0.33	0.08	4.5	3.6	3.0	2.6	2.3	1.8	1.5
13	2.51	0.39	0.09	3.9	3.1	2.6	2.2	1.9	1.5	1.3
14	2.33	0.45	0.09	3.3	2.7	2.2	1.9	1.7	1.3	1.1
15	2.18	0.52	0.10	2.9	2.3	1.9	1.7	1.5	1.2	1.0
16	2.04	0.59	0.11	2.6	2.0	1.7	1.5	1.3	1.0	.9
17	1.92	0.67	0.11	2.3	1.8	1.5	1.3	1.1	.9	.8
18	1.81	0.75	0.12	2.0	1.6	1.3	1.1	1.0	.8	.7
19	1.72	0.83	0.13	1.8	1.4	1.2	1.0	.9	.7	.6
20	1.63	0.92	0.14	1.6	1.3	1.1	.9	.8	.7	.5
21	1.55	1.01	0.14	1.5	1.2	1.0	.8	.7	.6	.5
22	1.48	1.11	0.15	1.3	1.1	.9	.8	.7	.5	.5
23	1.42	1.22	0.16	1.2	1.0	.8	.7	.6	.5	.4
24	1.36	1.33	0.16	1.1	.9	.7	.6	.6	.5	.4
25	1.31	1.45	0.17	1.0	.8	.7	.6	.5	.4	.4
26	1.26	1.56	0.18	1.0	.8	.6	.5	.5	.4	.3
27	1.21	1.68	0.18	.9	.7	.6	.5	.4	.4	.3
28	1.17	1.81	0.19	.8	.7	.6	.5	.4	.3	.3
29	1.13	1.95	0.20	.8	.6	.5	.4	.4	.3	.3

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

5-INCH **I BEAM**, No. 11, HEAVY, 13 LBS. PER FOOT.

Depth, 5". Width of Flanges, 2.91". Thickness of Web, 0.405".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet	Safe load, uniformly distributed, (including weight of beam) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	4.55	0.07	0.03	18.2	14.6	12.1	10.4	9.1	7.3	6.1
6	3.79	0.10	0.04	12.6	10.1	8.4	7.2	6.3	5.1	4.2
7	3.25	0.14	0.05	9.3	7.4	6.2	5.3	4.6	3.7	3.1
8	2.85	0.18	0.05	7.1	5.7	4.8	4.1	3.6	2.9	2.4
9	2.53	0.23	0.06	5.6	4.5	3.7	3.2	2.8	2.2	1.9
10	2.28	0.28	0.07	4.6	3.6	3.0	2.6	2.3	1.8	1.5
11	2.07	0.34	0.07	3.8	3.0	2.5	2.1	1.9	1.5	1.3
12	1.90	0.40	0.08	3.2	2.5	2.1	1.8	1.6	1.3	1.1
13	1.75	0.47	0.08	2.7	2.2	1.8	1.5	1.3	1.1	.9
14	1.63	0.55	0.09	2.3	1.9	1.6	1.3	1.2	.9	.8
15	1.52	0.63	0.10	2.0	1.6	1.4	1.2	1.0	.8	.7
16	1.42	0.71	0.10	1.8	1.4	1.2	1.0	.9	.7	.6
17	1.34	0.80	0.11	1.6	1.3	1.0	.9	.8	.6	.5
18	1.26	0.90	0.12	1.4	1.1	.9	.8	.7	.6	.5
19	1.20	1.00	0.12	1.3	1.0	.8	.7	.6	.5	.4
20	1.14	1.11	0.13	1.1	.9	.8	.7	.6	.5	.4
21	1.08	1.22	0.14	1.0	.8	.7	.6	.5	.4	.3
22	1.03	1.34	0.14	.9	.8	.6	.5	.5	.4	.3
23	.99	1.47	0.15	.9	.7	.6	.5	.4	.3	.3
24	.95	1.60	0.16	.8	.6	.5	.5	.4	.3	.3

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

5-INCH I BEAM, No. 11, LIGHT, 10 LBS. PER FOOT.

Depth, 5". Width of Flanges, 2.73". Thickness of Web, 0.225".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet,	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	3.95	0.07	0.03	15.8	12.6	10.5	9.0	7.9	6.3	5.3
6	3.29	0.10	0.03	11.0	8.8	7.3	6.3	5.5	4.4	3.7
7	2.82	0.14	0.04	8.1	6.4	5.4	4.6	4.0	3.2	2.7
8	2.47	0.18	0.04	6.2	4.9	4.1	3.5	3.1	2.5	2.1
9	2.20	0.23	0.05	4.9	3.9	3.3	2.8	2.4	2.0	1.6
10	1.98	0.28	0.05	4.0	3.2	2.6	2.3	2.0	1.6	1.3
11	1.80	0.34	0.06	3.3	2.6	2.2	1.9	1.7	1.3	1.1
12	1.65	0.40	0.06	2.8	2.2	1.8	1.6	1.4	1.1	.9
13	1.52	0.47	0.07	2.3	1.9	1.6	1.3	1.2	.9	.8
14	1.41	0.55	0.07	2.0	1.6	1.3	1.1	1.0	.8	.7
15	1.32	0.63	0.08	1.8	1.4	1.2	1.0	.9	.7	.6
16	1.24	0.71	0.08	1.6	1.2	1.0	.9	.8	.6	.5
17	1.16	0.80	0.09	1.4	1.1	.9	.8	.7	.5	.5
18	1.10	0.90	0.09	1.2	1.0	.8	.7	.6	.5	.4
19	1.04	1.00	0.10	1.1	.9	.7	.6	.5	.4	.4
20	.99	1.11	0.10	1.0	.8	.7	.6	.5	.4	.3
21	.94	1.22	0.11	.9	.7	.6	.5	.4	.4	.3
22	.90	1.34	0.11	.8	.7	.5	.5	.4	.3	.3
23	.86	1.47	0.12	.7	.6	.5	.4	.4	.3	.2
24	.82	1.60	0.12	.7	.5	.4	.4	.3	.3	.2

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

4-INCH I BEAM, No. 12, HEAVY, 10 LBS. PER FOOT.

Depth, 4". Width of Flanges, 2.63". Thickness of Web, 0.38".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	2.80	0.09	0.03	11.2	9.0	7.5	6.4	5.6	4.5	3.7
6	2.33	0.13	0.03	7.8	6.2	5.2	4.4	3.9	3.1	2.6
7	2.00	0.17	0.04	5.7	4.6	3.8	3.3	2.9	2.3	1.9
8	1.75	0.22	0.04	4.4	3.5	2.9	2.5	2.2	1.8	1.5
9	1.58	0.28	0.05	3.5	2.8	2.3	2.0	1.7	1.4	1.2
10	1.40	0.35	0.05	2.8	2.2	1.9	1.6	1.4	1.1	.9
11	1.27	0.42	0.06	2.3	1.8	1.5	1.3	1.2	.9	.8
12	1.17	0.50	0.06	2.0	1.6	1.3	1.1	1.0	.8	.7
13	1.08	0.59	0.07	1.7	1.3	1.1	.9	.8	.7	.6
14	1.00	0.68	0.07	1.4	1.1	1.0	.8	.7	.6	.5
15	0.93	0.78	0.08	1.2	1.0	.8	.7	.6	.5	.4
16	0.88	0.89	0.08	1.1	.9	.7	.6	.6	.4	.4
17	0.82	1.01	0.09	1.0	.8	.6	.6	.5	.4	.3
18	0.78	1.13	0.09	.9	.7	.6	.5	.4	.3	.3
19	0.74	1.26	0.10	.8	.6	.5	.4	.4	.3	.3

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

4-INCH I BEAM, No. 12, LIGHT, 8 LBS. PER FOOT.

Depth, 4". Width of Flanges, 2.48". Thickness of Web, 0.23"

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	2.48	0.09	0.02	9.9	7.9	6.6	5.7	5.0	4.0	3.3
6	2.07	0.13	0.02	6.9	5.5	4.6	3.9	3.5	2.8	2.3
7	1.77	0.17	0.03	5.1	4.0	3.4	2.9	2.5	2.0	1.7
8	1.55	0.22	0.03	3.9	3.1	2.6	2.2	1.9	1.6	1.3
9	1.38	0.28	0.04	3.1	2.5	2.0	1.8	1.5	1.2	1.0
10	1.24	0.35	0.04	2.5	2.0	1.7	1.4	1.2	1.0	.8
11	1.13	0.42	0.04	2.1	1.6	1.4	1.2	1.0	.8	.7
12	1.03	0.50	0.05	1.7	1.4	1.1	1.0	.9	.7	.6
13	0.95	0.59	0.05	1.5	1.2	1.0	.8	.7	.6	.5
14	0.89	0.68	0.06	1.3	1.0	.8	.7	.6	.5	.4
15	0.83	0.78	0.06	1.1	.9	.7	.6	.6	.4	.4
16	0.78	0.89	0.06	1.0	.8	.6	.6	.5	.4	.3
17	0.73	1.01	0.07	.9	.7	.6	.5	.4	.3	.3
18	0.69	1.13	0.07	.8	.6	.5	.4	.4	.3	.3
19	0.65	1.26	0.08	.7	.5	.5	.4	.3	.3	.2

DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections. 3-INCH I BEAM, No. 13, LIGHT, 7 LBS. PER FOOT.

Depth, 3". Width of Flanges, 2.32". Thickness of Web, 0.19".
Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Proper distance, in feet, center to center of beams, for Safe Loads of							
			100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.	
5	1.65	0.12	0.02	6.6	5.3	4.4	3.8	3.3	2.6	2.2
6	1.37	0.17	0.02	4.6	3.7	3.0	2.6	2.3	1.8	1.5
7	1.18	0.23	0.02	3.4	2.7	2.2	1.9	1.7	1.3	1.1
8	1.03	0.29	0.03	2.6	2.1	1.7	1.5	1.3	1.0	.9
9	0.92	0.37	0.03	2.0	1.6	1.4	1.2	1.0	.8	.7
10	0.82	0.46	0.04	1.6	1.3	1.1	.9	.8	.7	.5
11	0.75	0.56	0.04	1.4	1.1	.9	.8	.7	.5	.5
12	0.69	0.67	0.04	1.2	.9	.8	.7	.6	.5	.4
13	0.63	0.78	0.05	1.0	.8	.6	.6	.5	.4	.3
14	0.59	0.91	0.05	.8	.7	.6	.5	.4	.3	.3

Carnegie Iron Sections.

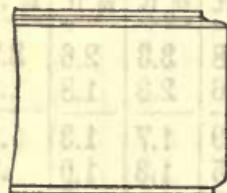
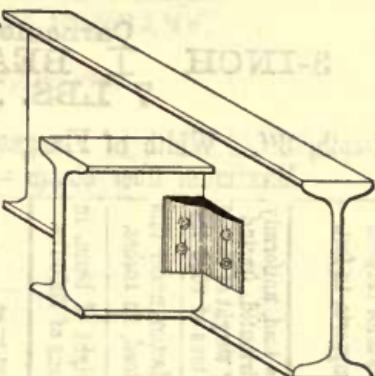
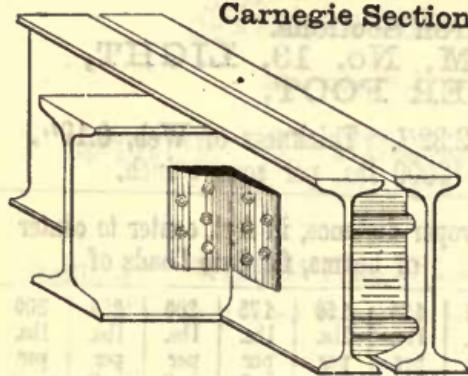
3-INCH I BEAM, No. 13, HEAVY, 9 LBS. PER FOOT.

Depth, 3". Width of Flanges, 2.52". Thickness of Web, 0.39".
Maximum fiber strain = 12000 lbs. per square inch.

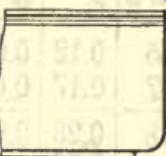
Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Proper distance, in feet, center to center of beams, for Safe Loads of							
			100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.	
5	1.89	0.12	0.02	7.6	6.0	5.0	4.3	3.8	3.0	2.5
6	1.57	0.17	0.03	5.2	4.2	3.5	3.0	2.6	2.1	1.7
7	1.35	0.23	0.03	3.9	3.1	2.6	2.2	1.9	1.5	1.3
8	1.18	0.29	0.04	3.0	2.4	2.0	1.7	1.5	1.2	1.0
9	1.05	0.37	0.04	2.3	1.9	1.6	1.3	1.2	.9	.8
10	0.94	0.46	0.05	1.9	1.5	1.3	1.1	.9	.8	.6
11	0.86	0.56	0.05	1.6	1.2	1.0	.9	.8	.6	.5
12	0.79	0.67	0.05	1.3	1.1	.9	.8	.7	.5	.4
13	0.73	0.78	0.06	1.1	.9	.7	.6	.5	.4	.4
14	0.67	0.91	0.06	1.0	.8	.6	.5	.4	.3	.3

DEARBORN FOUNDRY COMPANY.

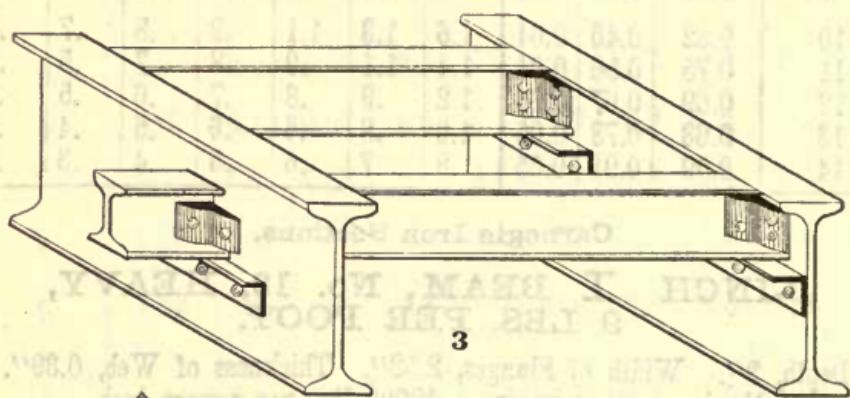
Carnegie Sections.



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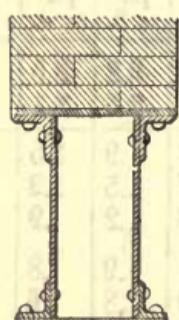
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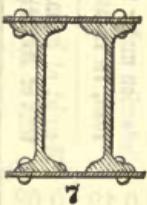
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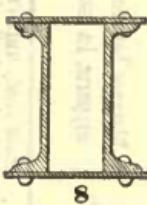
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7



9



10



EXPLANATION OF TABLE ON RIVETED GIRDERS.

Riveted girders are used in cases where rolled I Beams are insufficient to carry the load. On page 186 of the lithographed plates will be found illustrations of various forms of riveted girders. The sections with single webs are more economical than those with double webs (box girders), but the latter are stiffer laterally, and should always be used where a great length of span requires a wide top flange. If the girder is not held in position sideways, the proportion of length of span to width of flange should not exceed twenty without making provision for such increase by an addition of metal in the compression flange beyond that required by the table.

The web of the girder must be made of such thickness that there will be no tendency to buckle, and that the vertical shearing stress per square inch will not exceed 9000 lbs. This shearing stress is greatest nearest the supports and is obtained by dividing half the load upon the girder by the web section. The first condition (security against buckling) is attained when this

$$\text{shearing stress does not exceed } \frac{10000}{1 + \frac{d^2}{3000 t^2}} \text{ in which } d \text{ repre-}$$

sents the depth of web of girder and t its thickness, in inches. Ordinarily this formula gives a lower strain per square inch than 9000 lbs., so that both conditions are usually attained when the first is. Instead of increasing the thickness of the web, it may be stiffened also by means of vertical angle irons riveted to it at proper intervals. These latter should always be less than the depth of the girder, at least near the ends, but towards the middle of the girder the stiffeners may be placed further apart or entirely omitted. Stiffeners should always be used at or near the supports, and at any other points where there is a concentration of heavy loads.

The rivets should be $\frac{3}{4}''$, unless the girder is light, when $\frac{5}{8}''$ may be sufficient. The spacing ought not to exceed $6''$ and should be closer for heavy flanges, but in all cases it should be close at the ends, say $3''$ for a distance of $18''$ to $24''$ at each end.

The following table furnishes a ready means of determining the section of girder necessary to carry a certain load, for any span length from 10 to 39 feet, inclusive.

It will be noticed that the table is calculated for an allowed fiber strain of 10000 lbs. per square inch, while the tables on rolled beams are calculated for a fiber strain of 12000 lbs. per square inch. This reduction in the allowed strain is intended to cover the loss in strength, (somewhat greater than the loss in section,) due to the rivet holes, and the riveted girders proportioned by this table, will be found to be of about the same strength as the rolled beams proportioned by the tables applying to them. The transverse strength of the web is neglected in the table.

The term flange, as applied to riveted girders, embraces all the metal in top or bottom of girder exclusive of web plate; or, in the case of a rolled beam or channel with top and bottom plates, all the metal exclusive of web between fillets.

Girders intended to carry plastering, should be limited in depth, out to out, to $\frac{1}{24}$ th of the span length or $\frac{1}{2}$ " per foot of this length, otherwise the deflection is liable to cause the plastering to crack.

EXAMPLE OF APPLICATION OF TABLE.

A 20" box girder is to carry a 13" brick wall, equivalent to a weight of 30 tons, over a space 20' in the clear. What size of girder is required?

Answer: The value of the coefficient for 20' span and 20" depth, as per table, = 300, and for 21' span and 20" depth = 315. The span, in this case, may be assumed at 20'-6", and the coefficient therefore at 307. Consequently $\frac{307 \times 80}{1000} = 9.21$

will be the area required in each flange. Making the top and bottom plates $12'' \times \frac{3}{8}'' = 4.5$ sq. in., there remain 4.7 sq. in. for the two angles, = 8 lbs. per foot apiece. Making the webs $20'' \times \frac{1}{4}''$, the shearing stress = $\frac{30 \times 2000 \times \frac{1}{2}}{2 \times 20 \times \frac{1}{4}} = 3000$ lbs. per square inch, which is also safe against buckling, since

$$\frac{10000}{1 + \frac{d^2}{3000 t^2}} = \frac{10000}{1 + \frac{(20)^2}{3000 (\frac{1}{4})^2}} = 3200 \text{ lbs., allowed.}$$

DEARBORN FOUNDRY COMPANY.

RIVETED GIRDERS.

Coefficients for determining the area required in flanges, allowing 10000 lbs. per square inch of gross section fiber strain:

Multiply the load, in tons of 2000 lbs., uniformly distributed, by the coefficient, and divide by 1000; the quotient will be the gross area, in square inches, required for each flange.

Distance between supports in Feet.	Depth of Girder, Out to Out of Web, in Inches.												
	12	14	16	18	20	22	24	26	28	30	32	34	36
10	250	214	188	167	150	136	125	115	107	100	94	88	83
11	275	236	206	183	165	150	138	127	118	110	103	97	92
12	300	257	225	200	180	164	150	138	129	120	113	106	100
13	325	279	244	217	195	177	163	150	139	130	122	115	108
14	350	300	263	233	210	191	175	162	150	140	131	124	117
15	375	321	281	250	225	205	188	173	161	150	141	132	125
16	400	343	300	267	240	218	200	185	171	160	150	141	133
17	425	364	319	283	255	232	213	196	182	170	159	150	142
18	450	386	338	300	270	245	225	208	193	180	169	159	150
19	475	407	356	317	285	259	238	219	204	190	178	168	158
20	500	429	375	333	300	273	250	231	214	200	188	176	167
21	525	450	394	350	315	286	263	242	225	210	197	185	175
22	550	471	413	367	330	300	275	254	236	220	206	194	183
23	575	493	431	383	345	314	288	265	246	230	216	203	192
24	600	514	450	400	360	327	300	277	257	240	225	212	200
25	625	536	469	417	375	341	313	288	268	250	234	221	208
26	650	557	488	433	390	355	325	300	279	260	244	229	217
27	675	579	506	450	405	368	338	312	289	270	253	238	225
28	700	600	525	467	420	382	350	323	300	280	263	247	233
29	725	621	544	483	435	395	363	335	311	290	272	256	242
30	750	643	563	500	450	409	375	346	321	300	281	265	250
31	775	664	581	517	465	423	388	358	332	310	291	274	258
32	800	686	600	533	480	436	400	369	343	320	300	282	267
33	825	707	619	550	495	450	413	381	354	330	309	291	275
34	850	729	638	567	510	464	425	392	364	340	319	300	283
35	875	750	656	583	525	477	438	404	375	350	328	309	292
36	900	771	675	600	540	491	450	415	386	360	338	318	300
37	925	793	694	617	555	505	463	427	396	370	347	326	308
38	950	814	713	638	570	518	475	438	407	380	356	335	317
39	975	836	731	650	585	532	488	450	418	390	366	344	325

DEARBORN FOUNDRY COMPANY.

GENERAL NOTES ON FLOORS AND ROOFS.

On page 186 will be found examples of floor joists and their connections. When two beams are placed side by side, as in Fig. 1, they should be connected together by means of bolts and **cast-iron separators** fitted closely between the flanges of the beams. The office of these **separators** is to hold in position the compression flange of the beams, preventing side deflection or buckling, and to firmly unite the two beams so that they will act in unison. **Separators** should be used near the **supports** and at distances of five or six feet. Their weight will range from 19 lbs. for the heavy 15" beams, to 5 lbs. for 6" beams.

Figures 1, 2 and 3 show the methods of connecting beams with each other. In Figs. 1 and 2 the lighter beam is coped into the heavier one, the weight being carried by the lower flange of the latter. The angle with which the webs are connected serves only to hold the beams in position in this case. In Fig. 3 the load of the smaller beams is transferred to the larger by means of angles riveted to the webs, and in case this is not sufficient, an angle may be riveted to the web of the larger beam, underneath the smaller, as shown, to assist in carrying the load.

Figures 5, 6, 7, 8, 9 and 10, on page 186, are illustrations of the various forms of **girders**, such as it is often necessary to use in the front of buildings to carry walls, or in the interior to support the joists. Where these girders rest upon the wall, **cast or wrought iron bed plates** should be used, to distribute the pressure over a greater surface, and thereby prevent the crushing of the brick directly under the girder. In some cases a tough, large size stone will answer without the plates, but where the pressure is heavy both plates and stone should be used. Figs. 5, 6, 9 and 10 are illustrations.

On page 191, Fig. 1, is represented a girder composed of two beams, carrying a brick wall, in position. In case of failure of the girder, only a part of the wall above it would drop down, the line of rupture for brick work making an

angle of about 30° with the vertical, called the angle of repose. The weight to be carried by the girder may, therefore, be considered to be only that part of the wall between the lines of rupture, provided, that in building the wall, the center of the girder was supported temporarily with a wooden prop, preventing deflection. Several courses should, however, be laid before this is done.

If l = the clear span of girder, and h = the height of wall above it, the superficial area of the trapezoid between the lines of rupture, is expressed by $h \div 2 (2l - 1.2 h)$, but deductions must, of course, be made for windows or other openings in the wall, if there are any.

In order to be entirely on the safe side, and also for the sake of simplicity, the weight of wall between vertical lines directly over the girder, is frequently adopted as the load to be carried by it.

0.6 h.

1-1.2 h.

0.6 h.

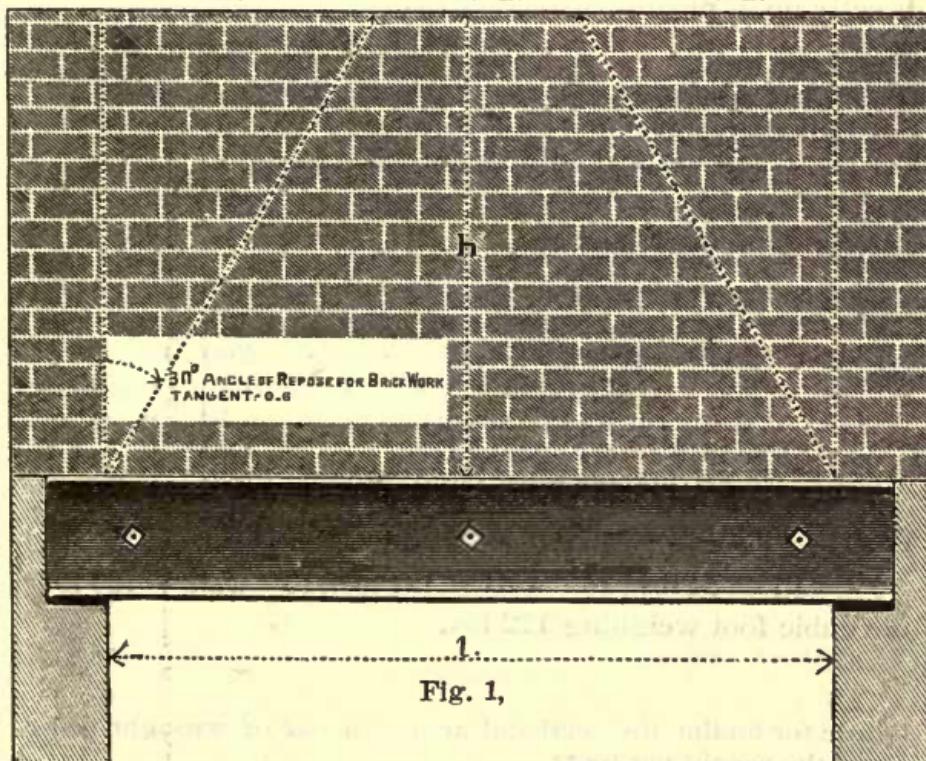


Fig. 1.

There are various fire-proof floors in use. One of the most common is that represented by Fig. 1, on page 186. Four-inch brick arches are built between beams, spaced *not*

over 5 feet apart, and tied together by rods $\frac{3}{4}$ " to 1" diameter at intervals of 4' to 6', so as to take the thrust of the arches off the walls. Tee or angle irons are inserted in the wall, so as to hold it firmly in line between the points held by the rods. The top of the arches is leveled off with concrete, allowing space, however, for wooden strips, to which the floor timber is nailed. The plastering for ceiling usually covers the arches only, so that the ceiling will appear curved and show the lower flanges of the iron beams.

The weight of a fire-proof floor, consisting of four-inch brick arches between beams, with concrete filling above the arches and flooring, will generally average about 70 lbs. per square foot, exclusive of the weight of the beams. The following are average weights of some other constructions, and the usual assumptions made for superimposed load:

Iron roof of 100 feet span, with corrugated iron laid directly upon purlins, will weigh—

Approximately,	- - - - -	10	lbs.	70	sq. ft.
If boarded, add	- - - - -	8	"	"	"
For lathed and plastered ceiling allow	- - - - -	10	"	"	"
For snow and vertical component wind force, allow	- - - - -	30	"	"	"

For superimposed load on—

Floors of dwellings, assume	- - - - -	60	"	"	"
Floors of churches, theatres and ball rooms,	125	"	"	"	"
Floors of warehouses,	- - - - -	250	"	"	"
Weight of snow freshly fallen,	- - - - -	5 to 12	"	cub. ft.	
Weight of snow saturated (slush),	- - - - -	40	"	"	"
Crowd of people closely packed,	- - - - -	80	"	sq. ft.	
Wind pressure (violent hurricane),	- - - - -	50	"	"	"

Weight of brick work per superficial foot, for a—

9" wall = 84 lbs., 13" wall = 121 lbs., 18" wall = 168 lbs.,
one cubic foot weighing 112 lbs.

Rule for finding the sectional area of a bar of wrought iron,
given the weight per foot:

Multiply by 3 and divide by 10.

Rule for finding the weight per foot, given the area:

Divide by 3 and multiply by 10.

DEARBORN FOUNDRY COMPANY.

STRENGTH OF MATERIALS.

ULTIMATE RESISTANCE TO TENSION

IN LBS. PER SQUARE INCH.

METALS.

	Average.
Brass, cast,	18000
" wire,	49000
Bronze or gun metal,	36000
Copper, cast,	19000
" sheet,	30000
" bolts,	36000
" wire,	60000
Iron, cast, 13400 to 29000,	16500
" wrought, round or square bars of 1 to 2 inch diameter, double refined,	50000 to 54000
" wrought, specimens $\frac{1}{2}$ inch square, cut from large bars of double refined iron,	50000 to 53000
" wrought, double refined, in large bars of about 7 square inches section,	46000 to 47000
" wrought, plates, angles and other shapes,	48000 to 51000
" " plates over 36" wide,	46000 to 50000

Wrought iron, suitable for the tension members of bridges, should be double refined, and show a permanent elongation of 20 per cent. in 5", when broken in small specimens, and a reduction of area of 25 per cent. at point of fracture.

The modulus of elasticity of Union Iron Mills' double refined bar iron is 25000000 to 26000000, from tests made on finished eyebars.

Iron, wire,	70000 to 100000
" wire-ropes,	90000
Lead, sheet,	3300
Steel,	65000 to 120000
Tin, cast,	4600
Zinc,	7000 to 8000

WEIGHTS OF FLAT ROLLED IRON PER LINEAL FOOT.

For Thicknesses from $\frac{1}{16}$ in. to 2 in. and Widths
from 1 in. to $12\frac{1}{4}$ in.

Iron weighing 480 lbs. per cubic foot.

Thickness in Inches.	1"	$1\frac{1}{4}"$	$1\frac{1}{2}"$	$1\frac{3}{4}"$	2"	$2\frac{1}{4}"$	$2\frac{1}{2}"$	$2\frac{3}{4}"$	12"
$\frac{1}{16}$	.208	.260	.313	.365	.417	.469	.521	.573	2.50
$\frac{1}{8}$	.417	.521	.625	.729	.833	.938	1.04	1.15	5.00
$\frac{3}{16}$	.625	.781	.938	1.09	1.25	1.41	1.56	1.72	7.50
$\frac{1}{4}$	.833	1.04	1.25	1.46	1.67	1.88	2.08	2.29	10.00
$\frac{5}{16}$	1.04	1.30	1.56	1.82	2.08	2.34	2.60	2.86	12.50
$\frac{3}{8}$	1.25	1.56	1.88	2.19	2.50	2.81	3.13	3.44	15.00
$\frac{7}{16}$	1.46	1.82	2.19	2.55	2.92	3.28	3.65	4.01	17.50
$\frac{1}{2}$	1.67	2.08	2.50	2.92	3.33	3.75	4.17	4.58	20.00
$\frac{9}{16}$	1.88	2.34	2.81	3.28	3.75	4.22	4.69	5.16	22.50
$\frac{5}{8}$	2.08	2.60	3.13	3.65	4.17	4.69	5.21	5.73	25.00
$\frac{11}{16}$	2.29	2.86	3.44	4.01	4.58	5.16	5.73	6.30	27.50
$\frac{3}{4}$	2.50	3.13	3.75	4.38	5.00	5.63	6.25	6.88	30.00
$\frac{13}{16}$	2.71	3.39	4.06	4.74	5.42	6.09	6.77	7.45	32.50
$\frac{7}{8}$	2.92	3.65	4.38	5.10	5.83	6.56	7.29	8.02	35.00
$\frac{15}{16}$	3.13	3.91	4.69	5.47	6.25	7.03	7.81	8.59	37.50
1	3.33	4.17	5.00	5.83	6.67	7.50	8.33	9.17	40.00
$1\frac{1}{16}$	3.54	4.43	5.31	6.20	7.08	7.97	8.85	9.74	42.50
$1\frac{1}{8}$	3.75	4.69	5.63	6.56	7.50	8.44	9.38	10.31	45.00
$1\frac{3}{16}$	3.96	4.95	5.94	6.93	7.92	8.91	9.90	10.89	47.50
$1\frac{1}{4}$	4.17	5.21	6.25	7.29	8.33	9.38	10.42	11.46	50.00
$1\frac{5}{16}$	4.37	5.47	6.56	7.66	8.75	9.84	10.94	12.03	52.50
$1\frac{3}{8}$	4.58	5.73	6.88	8.02	9.17	10.31	11.46	12.60	55.00
$1\frac{7}{16}$	4.79	5.99	7.19	8.39	9.58	10.78	11.98	13.18	57.50
$1\frac{1}{2}$	5.00	6.25	7.50	8.75	10.00	11.25	12.50	13.75	60.00
$1\frac{9}{16}$	5.21	6.51	7.81	9.11	10.42	11.72	13.02	14.32	62.50
$1\frac{5}{8}$	5.42	6.77	8.13	9.48	10.83	12.19	13.54	14.90	65.00
$1\frac{11}{16}$	5.63	7.03	8.44	9.84	11.25	12.66	14.06	15.47	67.50
$1\frac{3}{4}$	5.83	7.29	8.75	10.21	11.67	13.13	14.58	16.04	70.00
$1\frac{13}{16}$	6.04	7.55	9.06	10.57	12.08	13.59	15.10	16.61	72.50
$1\frac{7}{8}$	6.25	7.81	9.38	10.94	12.50	14.06	15.63	17.19	75.00
$1\frac{15}{16}$	6.46	8.07	9.69	11.30	12.92	14.53	16.15	17.76	77.50
2	6.67	8.33	10.00	11.67	13.33	15.00	16.67	18.33	80.00

WEIGHTS OF FLAT ROLLED IRON PER LINEAL FOOT.

(CONTINUED.)

Thickness in Inches.	3"	3 1/4"	3 1/2"	3 3/4"	4"	4 1/4"	4 1/2"	4 3/4"	12"
$\frac{1}{8}$	.625	.677	.729	.781	.833	.885	.938	.990	2.50
$\frac{1}{4}$	1.25	1.35	1.46	1.56	1.67	1.77	1.88	1.98	5.00
$\frac{3}{8}$	1.88	2.03	2.19	2.34	2.50	2.66	2.81	2.97	7.50
$\frac{1}{2}$	2.50	2.71	2.92	3.13	3.33	3.54	3.75	3.96	10.00
$\frac{5}{8}$	3.13	3.39	3.65	3.91	4.17	4.43	4.69	4.95	12.50
$\frac{3}{4}$	3.75	4.06	4.38	4.69	5.00	5.31	5.63	5.94	15.00
$\frac{7}{8}$	4.38	4.74	5.10	5.47	5.83	6.20	6.56	6.93	17.50
$\frac{1}{2}$	5.00	5.42	5.83	6.25	6.67	7.08	7.50	7.92	20.00
$\frac{9}{8}$	5.63	6.09	6.56	7.03	7.50	7.97	8.44	8.91	22.50
$\frac{5}{4}$	6.25	6.77	7.29	7.81	8.33	8.85	9.38	9.90	25.00
$\frac{11}{8}$	6.88	7.45	8.02	8.59	9.17	9.74	10.31	10.89	27.50
$\frac{3}{2}$	7.50	8.13	8.75	9.38	10.00	10.63	11.25	11.88	30.00
$\frac{13}{8}$	8.13	8.80	9.48	10.16	10.83	11.51	12.19	12.86	32.50
$\frac{7}{4}$	8.75	9.48	10.21	10.94	11.67	12.40	13.13	13.85	35.00
$\frac{15}{8}$	9.38	10.16	10.94	11.72	12.50	13.28	14.06	14.84	37.50
1	10.00	10.83	11.67	12.50	13.33	14.17	15.00	15.83	40.00
$\frac{1}{6}$	10.63	11.51	12.40	13.28	14.17	15.05	15.94	16.82	42.50
$1\frac{1}{8}$	11.25	12.19	13.13	14.06	15.00	15.94	16.88	17.81	45.00
$1\frac{3}{8}$	11.88	12.86	13.85	14.84	15.83	16.82	17.81	18.80	47.50
$1\frac{1}{4}$	12.50	13.54	14.58	15.63	16.67	17.71	18.75	19.79	50.00
$1\frac{5}{8}$	13.13	14.22	15.31	16.41	17.50	18.59	19.69	20.78	52.50
$1\frac{3}{4}$	13.75	14.90	16.04	17.19	18.33	19.48	20.63	21.77	55.00
$1\frac{7}{8}$	14.38	15.57	16.77	17.97	19.17	20.36	21.56	22.76	57.50
$1\frac{1}{2}$	15.00	16.25	17.50	18.75	20.00	21.25	22.50	23.75	60.00
$1\frac{9}{8}$	15.63	16.93	18.23	19.53	20.83	22.14	23.44	24.74	62.50
$1\frac{5}{4}$	16.25	17.60	18.96	20.31	21.67	23.02	24.38	25.73	65.00
$1\frac{11}{16}$	16.88	18.28	19.69	21.09	22.50	23.91	25.31	26.72	67.50
$1\frac{3}{4}$	17.50	18.96	20.42	21.88	23.33	24.79	26.25	27.71	70.00
$1\frac{13}{16}$	18.13	19.64	21.15	22.66	24.17	25.68	27.19	28.70	72.50
$1\frac{7}{8}$	18.75	20.31	21.88	23.44	25.00	26.56	28.13	29.69	75.00
$1\frac{15}{16}$	19.38	20.99	22.60	24.22	25.83	27.45	29.06	30.68	77.50
2	20.00	21.67	23.33	25.00	26.67	28.33	30.00	31.67	80.00

WEIGHTS OF FLAT ROLLED IRON PER LINEAL FOOT.

(CONTINUED.)

Thickness in Inches.	5"	5 1/4"	5 1/2"	5 3/4"	6"	6 1/4"	6 1/2"	6 3/4"	12"
1/8	1.04	1.09	1.15	1.20	1.25	1.30	1.35	1.41	2.50
1/4	2.08	2.19	2.29	2.40	2.50	2.60	2.71	2.81	5.00
3/16	3.13	3.28	3.44	3.59	3.75	3.91	4.06	4.22	7.50
1/2	4.17	4.38	4.58	4.79	5.00	5.21	5.42	5.63	10.00
5/16	5.21	5.47	5.73	5.99	6.25	6.51	6.77	7.03	12.50
3/8	6.25	6.56	6.88	7.19	7.50	7.81	8.13	8.44	15.00
7/16	7.29	7.66	8.02	8.39	8.75	9.11	9.48	9.84	17.50
1/4	8.33	8.75	9.17	9.58	10.00	10.42	10.83	11.25	20.00
9/16	9.38	9.84	10.31	10.78	11.25	11.72	12.19	12.66	22.50
5/8	10.42	10.94	11.46	11.98	12.50	13.02	13.54	14.06	25.00
11/16	11.46	12.03	12.60	13.18	13.75	14.32	14.90	15.47	27.50
3/4	12.50	13.13	13.75	14.38	15.00	15.63	16.25	16.88	30.00
1 1/8	13.54	14.22	14.90	15.57	16.25	16.93	17.60	18.28	32.50
1 1/4	14.58	15.31	16.04	16.77	17.50	18.23	18.96	19.69	35.00
1 5/8	15.63	16.41	17.19	17.97	18.75	19.53	20.31	21.09	37.50
1	16.67	17.50	18.33	19.17	20.00	20.88	21.67	22.50	40.00
1 1/8	17.71	18.59	19.48	20.36	21.25	22.14	23.02	23.91	42.50
1 1/4	18.75	19.69	20.63	21.56	22.50	23.44	24.38	25.31	45.00
1 3/8	19.79	20.78	21.77	22.76	23.75	24.74	25.73	26.72	47.50
1 1/2	20.83	21.88	22.92	23.96	25.00	26.04	27.08	28.13	50.00
1 5/8	21.88	22.97	24.06	25.16	26.25	27.34	28.44	29.53	52.50
1 1/2	22.92	24.06	25.21	26.35	27.50	28.65	29.79	30.94	55.00
1 7/8	23.96	25.16	26.35	27.55	28.75	29.95	31.15	32.34	57.50
1 1/4	25.00	26.25	27.50	28.75	30.00	31.25	32.50	33.75	60.00
1 9/16	26.04	27.34	28.65	29.95	31.25	32.55	33.85	35.16	62.50
1 1/2	27.08	28.44	29.79	31.15	32.50	33.85	35.21	36.56	65.00
1 11/16	28.13	29.53	30.94	32.34	33.75	35.16	36.56	37.97	67.50
1 3/4	29.17	30.63	32.08	33.54	35.00	36.46	37.92	39.38	70.00
1 13/16	30.21	31.72	33.23	34.74	36.25	37.76	39.27	40.78	72.50
1 7/8	31.25	32.81	34.38	35.94	37.50	39.06	40.63	42.19	75.00
1 15/16	32.29	33.91	35.52	37.14	38.75	40.36	41.98	43.59	77.50
2	33.33	35.00	36.67	38.33	40.00	41.67	43.33	45.00	80.00

WEIGHTS OF FLAT ROLLED IRON PER LINEAL FOOT.

(CONTINUED.)

Thickness in Inches.	7"	7 1/4"	7 1/2"	7 3/4"	8"	8 1/4"	8 1/2"	8 3/4"	12"
$\frac{1}{8}$	1.46	1.51	1.56	1.61	1.67	1.72	1.77	1.82	2.50
	2.92	3.02	3.13	3.23	3.33	3.44	3.54	3.65	5.00
	4.38	4.53	4.69	4.84	5.00	5.16	5.31	5.47	7.50
	5.83	6.04	6.25	6.46	6.67	6.88	7.08	7.29	10.00
$\frac{5}{16}$	7.29	7.55	7.81	8.07	8.33	8.59	8.85	9.11	12.50
	8.75	9.06	9.38	9.69	10.00	10.31	10.63	10.94	15.00
	10.21	10.57	10.94	11.30	11.67	12.03	12.40	12.76	17.50
	11.67	12.08	12.50	12.92	13.33	13.75	14.17	14.58	20.00
$\frac{9}{16}$	13.13	13.59	14.06	14.53	15.00	15.47	15.94	16.41	22.50
	14.58	15.10	15.63	16.15	16.67	17.19	17.71	18.23	25.00
	16.04	16.61	17.19	17.76	18.33	18.91	19.48	20.05	27.50
	17.50	18.13	18.75	19.38	20.00	20.63	21.25	21.88	30.00
$\frac{13}{16}$	18.96	19.64	20.31	20.99	21.67	22.34	23.02	23.70	32.50
	20.42	21.15	21.88	22.60	23.33	24.06	24.79	25.52	35.00
	21.88	22.66	23.44	24.22	25.00	25.78	26.56	27.34	37.50
	23.33	24.17	25.00	25.83	26.67	27.50	28.33	29.17	40.00
$1\frac{1}{8}$	24.79	25.68	26.56	27.45	28.33	29.22	30.10	30.99	42.50
	26.25	27.19	28.13	29.06	30.00	30.94	31.88	32.81	45.00
	27.71	28.70	29.69	30.68	31.67	32.66	33.65	34.64	47.50
	29.17	30.21	31.25	32.29	33.38	34.38	35.42	36.46	50.00
$1\frac{5}{16}$	30.62	31.72	32.81	33.91	35.00	36.09	37.19	38.28	52.50
	32.08	33.23	34.38	35.52	36.67	37.81	38.96	40.10	55.00
	33.54	34.74	35.94	37.14	38.33	39.53	40.73	41.93	57.50
	35.00	36.25	37.50	38.75	40.00	41.25	42.50	43.75	60.00
$1\frac{9}{16}$	36.46	37.76	39.06	40.36	41.67	42.97	44.27	45.57	62.50
	37.92	39.27	40.63	41.98	43.33	44.69	46.04	47.40	65.00
	39.38	40.78	42.19	43.59	45.00	46.41	47.81	49.22	67.50
	40.83	42.29	43.75	45.21	46.67	48.13	49.58	51.04	70.00
$1\frac{13}{16}$	42.29	43.80	45.31	46.82	48.33	49.84	51.35	52.86	72.50
	43.75	45.31	46.88	48.44	50.00	51.56	53.13	54.69	75.00
	45.21	46.82	48.44	50.05	51.67	53.28	54.90	56.51	77.50
	46.67	48.83	50.00	51.67	53.33	55.00	56.67	58.33	80.00

WEIGHTS OF FLAT ROLLED IRON PER LINEAL FOOT.

(CONTINUED.)

Thickness in Inches.	9"	9½"	9¾"	10"	10¼"	10½"	10¾"	12"
1/8	1.88	1.93	1.98	2.03	2.08	2.14	2.19	2.24
1/4	3.75	3.85	3.96	4.06	4.17	4.27	4.38	4.48
3/8	5.63	5.78	5.94	6.09	6.25	6.41	6.56	6.72
1/2	7.50	7.71	7.92	8.13	8.33	8.54	8.75	8.96
5/8	9.38	9.64	9.90	10.16	10.42	10.68	10.94	11.20
3/4	11.25	11.56	11.88	12.19	12.50	12.81	13.13	13.44
7/8	13.13	13.49	13.85	14.22	14.58	14.95	15.31	15.68
1	15.00	15.42	15.83	16.25	16.67	17.08	17.50	17.92
9/16	16.88	17.34	17.81	18.28	18.75	19.22	19.69	20.16
5/8	18.75	19.27	19.79	20.31	20.83	21.35	21.88	22.40
11/16	20.63	21.20	21.77	22.34	22.92	23.49	24.06	24.64
3/4	22.50	23.13	23.75	24.38	25.00	25.62	26.25	26.88
13/16	24.38	25.05	25.73	26.41	27.03	27.76	28.44	29.11
7/8	26.25	26.98	27.71	28.44	29.17	29.90	30.63	31.35
15/16	28.13	28.91	29.69	30.47	31.25	32.03	32.81	33.59
1	30.00	30.83	31.67	32.50	33.33	34.17	35.00	35.83
1 1/8	31.88	32.76	33.65	34.53	35.42	36.30	37.19	38.07
1 1/4	33.75	34.69	35.63	36.56	37.50	38.44	39.38	40.31
1 3/8	35.63	36.61	37.60	38.59	39.58	40.57	41.56	42.55
1 1/2	37.50	38.54	39.58	40.63	41.67	42.71	43.75	44.79
1 5/8	39.38	40.47	41.56	42.66	43.75	44.84	45.94	47.03
1 3/4	41.25	42.40	43.54	44.69	45.83	46.98	48.13	49.27
1 7/8	43.13	44.32	45.52	46.72	47.92	49.11	50.31	51.51
1 1/2	45.00	46.25	47.50	48.75	50.00	51.25	52.50	53.75
1 9/16	46.88	48.18	49.48	50.78	52.08	53.39	54.69	55.99
1 5/8	48.75	50.10	51.46	52.81	54.17	55.52	56.88	58.23
1 11/16	50.63	52.03	53.44	54.84	56.25	57.66	59.06	60.47
1 3/4	52.50	53.96	55.42	56.88	58.33	59.79	61.25	62.71
1 13/16	54.38	55.89	57.40	58.91	60.42	61.93	63.44	64.95
1 7/8	56.25	57.81	59.38	60.94	62.50	64.06	65.63	67.19
1 15/16	58.13	59.74	61.35	63.97	64.58	66.20	67.81	69.43
2	60.00	61.67	63.33	65.00	66.67	68.33	70.00	71.67

WEIGHTS OF FLAT ROLLED IRON PER LINEAL FOOT.

(CONTINUED.)

Thickness in Inches.	11"	11 $\frac{1}{4}$ "	11 $\frac{1}{2}$ "	11 $\frac{3}{4}$ "	12"	12 $\frac{1}{4}$ "	12 $\frac{1}{2}$ "	12 $\frac{3}{4}$ "
$\frac{1}{16}$	2.29	2.34	2.40	2.45	2.50	2.55	2.60	2.66
$\frac{1}{8}$	4.58	4.69	4.79	4.90	5.00	5.10	5.21	5.31
$\frac{3}{16}$	6.88	7.03	7.19	7.34	7.50	7.66	7.81	7.97
$\frac{1}{4}$	9.17	9.38	9.58	9.79	10.00	10.21	10.42	10.63
$\frac{5}{16}$	11.46	11.72	11.98	12.24	12.50	12.76	13.02	13.28
$\frac{3}{8}$	13.75	14.06	14.38	14.69	15.00	15.31	15.63	15.94
$\frac{7}{16}$	16.04	16.41	16.77	17.14	17.50	17.86	18.23	18.59
$\frac{1}{2}$	18.33	18.75	19.17	19.58	20.00	20.42	20.83	21.25
$\frac{9}{16}$	20.63	21.09	21.56	22.03	22.50	22.97	23.44	23.91
$\frac{5}{8}$	22.92	23.44	23.96	24.48	25.00	25.52	26.04	26.56
$\frac{11}{16}$	25.21	25.78	26.35	26.93	27.50	28.07	28.65	29.22
$\frac{3}{4}$	27.50	28.13	28.75	29.38	30.00	30.63	31.25	31.88
$\frac{13}{16}$	29.79	30.47	31.15	31.82	32.50	33.18	33.85	34.53
$\frac{7}{8}$	32.08	32.81	33.54	34.27	35.00	35.73	36.46	37.19
$\frac{15}{16}$	34.38	35.16	35.94	36.72	37.50	38.28	39.06	39.84
1	36.67	37.50	38.33	39.17	40.00	40.83	41.67	42.50
$1\frac{1}{16}$	38.96	39.84	40.73	41.61	42.50	43.39	44.27	45.16
$1\frac{1}{8}$	41.25	42.19	43.13	44.06	45.00	45.94	46.88	47.81
$1\frac{3}{16}$	43.54	44.53	45.52	46.51	47.50	48.49	49.48	50.47
$1\frac{1}{4}$	45.83	46.88	47.92	48.96	50.00	51.04	52.08	53.13
$1\frac{5}{16}$	48.13	49.22	50.31	51.41	52.50	53.59	54.69	55.78
$1\frac{3}{8}$	50.42	51.56	52.71	53.85	55.00	56.15	57.29	58.44
$1\frac{7}{16}$	52.71	53.91	55.10	56.30	57.50	58.70	59.90	61.09
$1\frac{1}{2}$	55.00	56.25	57.50	58.75	60.00	61.25	62.50	63.75
$1\frac{9}{16}$	57.29	58.59	59.90	61.20	62.50	63.80	65.10	66.41
$1\frac{5}{8}$	59.58	60.94	62.29	63.65	65.00	66.35	67.71	69.06
$1\frac{11}{16}$	61.88	63.28	64.69	66.09	67.50	68.91	70.31	71.72
$1\frac{3}{4}$	64.17	65.63	67.08	68.54	70.00	71.46	72.92	74.38
$1\frac{13}{16}$	66.46	67.97	69.48	70.99	72.50	74.01	75.52	77.03
$1\frac{7}{8}$	68.75	70.31	71.88	73.44	75.00	76.56	78.13	79.69
$1\frac{15}{16}$	71.04	72.66	74.27	75.89	77.50	79.11	80.73	82.34
2	73.33	75.00	76.67	78.33	80.00	81.67	83.33	85.00

The weights for 12" width are repeated on each page to facilitate making the additions necessary to obtain the weights of plates wider than 12". Thus, to find the weight of $15\frac{3}{4}'' \times \frac{7}{8}''$, add the weights to be found in the same line for $3\frac{1}{4}'' \times \frac{7}{8}''$ and $12'' \times \frac{7}{8}'' = 9.48 + 35.00 = 44.48$ lbs.

**WEIGHTS AND AREAS OF
SQUARE & ROUND BARS OF WROUGHT IRON**
And Circumferences of Round Bars.
One cubic foot weighing 480 lbs.

Thickness or Diameter in Inches.	Weight of Bar One Foot long.	Weight of Bar One Foot long.	Area of Bar in sq. inches.	Area of Bar in sq. inches.	Circumference of Bar in inches.
0					
$\frac{1}{8}$	.013	.010	.0039	.0031	.1963
$\frac{1}{6}$	.052	.041	.0156	.0123	.3927
$\frac{3}{16}$	.117	.092	.0352	.0276	.5890
$\frac{1}{4}$	.208	.164	.0625	.0491	.7854
$\frac{5}{16}$	.326	.256	.0977	.0767	.9817
$\frac{3}{8}$	.469	.368	.1406	.1104	1.1781
$\frac{7}{16}$	.638	.501	.1914	.1503	1.3744
$\frac{1}{2}$	.833	.654	.2500	.1963	1.5708
$\frac{9}{16}$	1.055	.828	.3164	.2485	1.7671
$\frac{5}{8}$	1.302	1.023	.3906	.3068	1.9635
$\frac{11}{16}$	1.576	1.237	.4727	.3712	2.1598
$\frac{3}{4}$	1.875	1.473	.5625	.4418	2.3562
$\frac{13}{16}$	2.201	1.728	.6602	.5185	2.5525
$\frac{7}{8}$	2.552	2.004	.7656	.6013	2.7489
$\frac{15}{16}$	2.930	2.301	.8789	.6903	2.9452
1					
$\frac{1}{6}$	3.333	2.618	1.0000	.7854	3.1416
$\frac{1}{5}$	3.763	2.955	1.1289	.8866	3.3379
$\frac{1}{4}$	4.219	3.313	1.2656	.9940	3.5343
$\frac{3}{5}$	4.701	3.692	1.4102	1.1075	3.7306
$\frac{1}{3}$	5.208	4.091	1.5625	1.2272	3.9270
$\frac{5}{16}$	5.742	4.510	1.7227	1.3530	4.1233
$\frac{3}{8}$	6.302	4.950	1.8906	1.4849	4.3197
$\frac{7}{16}$	6.888	5.410	2.0664	1.6230	4.5160
$\frac{1}{2}$	7.500	5.890	2.2500	1.7671	4.7124
$\frac{9}{16}$	8.133	6.392	2.4414	1.9175	4.9087
$\frac{5}{8}$	8.802	6.913	2.6406	2.0739	5.1051
$\frac{11}{16}$	9.492	7.455	2.8477	2.2365	5.3014
$\frac{3}{4}$	10.21	8.018	3.0625	2.4053	5.4978
$\frac{13}{16}$	10.95	8.601	3.2852	2.5802	5.6941
$\frac{7}{8}$	11.72	9.204	3.5156	2.7612	5.8905
$\frac{15}{16}$	12.51	9.828	3.7539	2.9483	6.0868

SQUARE AND ROUND BARS.

(CONTINUED.)

Thickness or Diameter in Inches.	Weight of ■ Bar One Foot long.	Weight of ● Bar One Foot long.	Area of ■ Bar in sq. inches.	Area of ● Bar in sq. inches.	Circumference of ● Bar in inches.
2	13.33	10.47	4.0000	3.1416	6.2832
$\frac{1}{6}$	14.18	11.14	4.2539	3.3410	6.4795
$\frac{1}{5}$	15.05	11.82	4.5156	3.5466	6.6759
$\frac{8}{6}$	15.95	12.53	4.7852	3.7583	6.8722
$\frac{1}{4}$	16.88	13.25	5.0625	3.9761	7.0686
$\frac{5}{6}$	17.83	14.00	5.3477	4.2000	7.2649
$\frac{3}{8}$	18.80	14.77	5.6406	4.4301	7.4613
$\frac{7}{6}$	19.80	15.55	5.9414	4.6664	7.6576
$\frac{1}{2}$	20.83	16.36	6.2500	4.9087	7.8540
$\frac{9}{6}$	21.89	17.19	6.5664	5.1572	8.0503
$\frac{5}{8}$	22.97	18.04	6.8906	5.4119	8.2467
$\frac{11}{6}$	24.08	18.91	7.2227	5.6727	8.4430
$\frac{3}{4}$	25.21	19.80	7.5625	5.9396	8.6394
$\frac{13}{6}$	26.37	20.71	7.9102	6.2126	8.8357
$\frac{7}{8}$	27.55	21.64	8.2656	6.4918	9.0321
$\frac{15}{6}$	28.76	22.59	8.6289	6.7771	9.2284
3	30.00	23.56	9.0000	7.0686	9.4248
$\frac{1}{6}$	31.26	24.55	9.3789	7.3662	9.6211
$\frac{1}{4}$	32.55	25.57	9.7656	7.6699	9.8175
$\frac{13}{6}$	33.87	26.60	10.160	7.9798	10.014
$\frac{1}{4}$	35.21	27.65	10.563	8.2958	10.210
$\frac{5}{6}$	36.58	28.73	10.973	8.6179	10.407
$\frac{3}{8}$	37.97	29.82	11.391	8.9462	10.603
$\frac{7}{6}$	39.39	30.94	11.816	9.2806	10.799
$\frac{1}{2}$	40.83	32.07	12.250	9.6211	10.996
$\frac{9}{6}$	42.30	33.23	12.691	9.9678	11.192
$\frac{5}{8}$	43.80	34.40	13.141	10.321	11.388
$\frac{11}{6}$	45.33	35.60	13.598	10.680	11.585
$\frac{3}{4}$	46.88	36.82	14.063	11.045	11.781
$\frac{13}{6}$	48.45	38.05	14.535	11.416	11.977
$\frac{7}{8}$	50.05	39.31	15.016	11.793	12.174
$\frac{15}{6}$	51.68	40.59	15.504	12.177	12.370

SQUARE AND ROUND BARS.

(CONTINUED.)

Thickness or Diameter in Inches.	Weight of ■ Bar One Foot long.	Weight of ● Bar One Foot long.	Area of ■ Bar in sq. inches.	Area of ● Bar in sq. inches.	Circumference of ● Bar in inches.
4	53.33	41.89	16.000	12.566	12.566
$\frac{1}{5}$	55.01	43.21	16.504	12.962	12.763
$\frac{1}{8}$	56.72	44.55	17.016	13.364	12.959
$\frac{3}{16}$	58.45	45.91	17.535	13.772	13.155
$\frac{1}{4}$	60.21	47.29	18.063	14.186	13.352
$\frac{5}{16}$	61.99	48.69	18.598	14.607	13.548
$\frac{3}{8}$	63.80	50.11	19.141	15.033	13.744
$\frac{7}{16}$	65.64	51.55	19.691	15.466	13.941
$\frac{1}{2}$	67.50	53.01	20.250	15.904	14.137
$\frac{9}{16}$	69.39	54.50	20.816	16.349	14.334
$\frac{5}{8}$	71.30	56.00	21.391	16.800	14.530
$\frac{11}{16}$	73.24	57.52	21.973	17.257	14.726
$\frac{3}{4}$	75.21	59.07	22.563	17.71	14.923
$\frac{13}{16}$	77.20	60.63	23.160	18.190	15.119
$\frac{7}{8}$	79.22	62.22	23.766	18.665	15.315
$\frac{15}{16}$	81.26	63.82	24.379	19.147	15.512
5	83.33	65.45	25.000	19.635	15.708
$\frac{1}{5}$	85.43	67.10	25.629	20.129	15.904
$\frac{1}{4}$	87.55	68.76	26.266	20.629	16.101
$\frac{11}{16}$	89.70	70.45	26.910	21.135	16.297
$\frac{1}{2}$	91.88	72.16	27.563	21.648	16.493
$\frac{17}{16}$	94.08	73.89	28.223	22.166	16.690
$\frac{3}{4}$	96.30	75.64	28.891	22.691	16.886
$\frac{19}{16}$	98.55	77.40	29.566	23.221	17.082
$\frac{1}{4}$	100.8	79.19	30.250	23.758	17.279
$\frac{15}{16}$	103.1	81.00	30.941	24.301	17.475
$\frac{5}{8}$	105.5	82.83	31.641	24.850	17.671
$\frac{11}{16}$	107.8	84.69	32.348	25.406	17.868
$\frac{3}{4}$	110.2	86.56	33.063	25.967	18.064
$\frac{13}{16}$	112.6	88.45	33.785	26.535	18.261
$\frac{7}{8}$	115.1	90.36	34.516	27.109	18.457
$\frac{15}{16}$	117.5	92.29	35.254	27.688	18.653

SQUARE AND ROUND BARS.

(CONTINUED.)

Thickness or Diameter in Inches.	Weight of ■ Bar One Foot long.	Weight of ● Bar One Foot long.	Area of ■ Bar in sq. inches.	Area of ● Bar in sq. inches.	Circumference of ● Bar in inches.
6	120.0	94.25	36.000	28.274	18.850
$\frac{1}{8}$	122.5	96.22	36.754	28.866	19.046
$\frac{1}{4}$	125.1	98.22	37.516	29.465	19.242
$\frac{3}{8}$	127.6	100.2	38.285	30.069	19.439
$\frac{1}{2}$	130.2	102.3	39.063	30.680	19.635
$\frac{5}{8}$	132.8	104.3	39.848	31.296	19.831
$\frac{3}{4}$	135.5	106.4	40.641	31.919	20.028
$\frac{7}{8}$	138.1	108.5	41.441	32.548	20.224
$\frac{1}{2}$	140.8	110.6	42.250	33.183	20.420
$\frac{9}{16}$	143.6	112.7	43.066	33.824	20.617
$\frac{15}{16}$	146.3	114.9	43.891	34.472	20.813
$\frac{11}{16}$	149.1	117.1	44.723	35.125	21.009
$\frac{3}{4}$	151.9	119.3	45.563	35.785	21.206
$\frac{13}{16}$	154.7	121.5	46.410	36.450	21.402
$\frac{7}{8}$	157.6	123.7	47.266	37.122	21.598
$\frac{15}{16}$	160.4	126.0	48.129	37.800	21.795
7	163.3	128.3	49.000	38.485	21.991
$\frac{1}{8}$	166.3	130.6	49.879	39.175	22.187
$\frac{1}{4}$	169.2	132.9	50.766	39.871	22.384
$\frac{5}{8}$	172.2	135.2	51.660	40.574	22.580
$\frac{1}{4}$	175.2	137.6	52.563	41.282	22.777
$\frac{5}{8}$	178.2	140.0	53.473	41.997	22.973
$\frac{3}{4}$	181.3	142.4	54.391	42.718	23.169
$\frac{7}{8}$	184.4	144.8	55.316	43.445	23.366
$\frac{1}{2}$	187.5	147.3	56.250	44.179	23.562
$\frac{15}{16}$	190.6	149.7	57.191	44.918	23.758
$\frac{5}{8}$	193.8	152.2	58.141	45.664	23.955
$\frac{11}{16}$	197.0	154.7	59.098	46.415	24.151
$\frac{3}{4}$	200.2	157.2	60.063	47.173	24.347
$\frac{13}{16}$	203.5	159.8	61.035	47.937	24.544
$\frac{7}{8}$	206.7	162.4	62.016	48.707	24.740
$\frac{15}{16}$	210.0	164.9	63.004	49.483	24.936

SQUARE AND ROUND BARS.

(CONTINUED.)

Thickness or Diameter in Inches.	Weight of ■ Bar One Foot long.	Weight of ● Bar One Foot long.	Area of ■ Bar in sq. inches.	Area of ● Bar in sq. inches.	Circumference of ● Bar in inches.
8	213.3	167.6	64.000	50.265	25.133
$\frac{1}{16}$	216.7	170.2	65.004	51.054	25.329
$\frac{1}{8}$	220.1	172.8	66.016	51.849	25.525
$\frac{3}{16}$	223.5	175.5	67.035	52.649	25.722
$\frac{1}{4}$	226.9	178.2	68.063	53.456	25.918
$\frac{5}{16}$	230.3	180.9	69.098	54.269	26.114
$\frac{3}{8}$	233.8	183.6	70.141	55.088	26.311
$\frac{7}{16}$	237.3	186.4	71.191	55.914	26.507
$\frac{1}{2}$	240.8	189.2	72.250	56.745	26.704
$\frac{9}{16}$	244.4	191.9	73.316	57.583	26.900
$\frac{5}{8}$	248.0	194.8	74.391	58.426	27.096
$\frac{11}{16}$	251.6	197.6	75.473	59.276	27.293
$\frac{3}{4}$	255.2	200.4	76.563	60.132	27.489
$\frac{13}{16}$	258.9	203.3	77.660	60.994	27.685
$\frac{7}{8}$	262.6	206.2	78.766	61.862	27.882
$\frac{15}{16}$	266.3	209.1	79.879	62.737	28.078
9	270.0	212.1	81.000	63.617	28.274
$\frac{1}{16}$	273.8	215.0	82.129	64.504	28.471
$\frac{1}{8}$	277.6	218.0	83.266	65.397	28.667
$\frac{3}{16}$	281.4	221.0	84.410	66.296	28.863
$\frac{1}{4}$	285.2	224.0	85.563	67.201	29.060
$\frac{5}{16}$	289.1	227.0	86.723	68.112	29.256
$\frac{3}{8}$	293.0	230.1	87.891	69.029	29.452
$\frac{7}{16}$	296.9	233.2	89.066	69.953	29.649
$\frac{1}{2}$	300.8	236.3	90.250	70.882	29.845
$\frac{9}{16}$	304.8	239.4	91.441	71.818	30.041
$\frac{5}{8}$	308.8	242.5	92.641	72.760	30.238
$\frac{11}{16}$	312.8	245.7	93.848	73.708	30.434
$\frac{3}{4}$	316.9	248.9	95.063	74.662	30.631
$\frac{13}{16}$	321.0	252.1	96.285	75.622	30.827
$\frac{7}{8}$	325.1	255.3	97.516	76.589	31.023
$\frac{15}{16}$	329.2	258.5	98.754	77.561	31.220

SQUARE AND ROUND BARS.

(CONTINUED.).

Thickness or Diameter in Inches.	Weight of ■ Bar One Foot long.	Weight of ● Bar One Foot long.	Area of ■ Bar in sq. inches.	Area of ● Bar in sq. inches.	Circumference of ● Bar in inches.
10	333.3	261.8	100.00	78.540	31.416
$\frac{1}{8}$	337.5	265.1	101.25	79.525	31.612
$\frac{1}{6}$	341.7	268.4	102.52	80.516	31.809
$\frac{3}{8}$	346.0	271.7	103.79	81.513	32.005
$\frac{1}{4}$	350.2	275.1	105.06	82.516	32.201
$\frac{5}{8}$	354.5	278.4	106.35	83.525	32.398
$\frac{3}{4}$	358.8	281.8	107.64	84.541	32.594
$\frac{1}{2}$	363.1	285.2	108.94	85.562	32.790
$\frac{1}{2}$	367.5	288.6	110.25	86.590	32.987
$\frac{9}{16}$	371.9	292.1	111.57	87.624	33.183
$\frac{5}{8}$	376.3	295.5	112.89	88.664	33.379
$\frac{11}{16}$	380.7	299.0	114.22	89.710	33.576
$\frac{3}{4}$	385.2	302.5	115.56	90.763	33.772
$\frac{13}{16}$	389.7	306.1	116.91	91.821	33.968
$\frac{7}{8}$	394.2	309.6	118.27	92.886	34.165
$\frac{15}{16}$	398.3	313.2	119.63	93.956	34.361
11	403.3	316.8	121.00	95.033	34.558
$\frac{1}{8}$	407.9	320.4	122.38	96.116	34.754
$\frac{1}{6}$	412.6	324.0	123.77	97.205	34.950
$\frac{3}{8}$	417.2	327.7	125.16	98.301	35.147
$\frac{1}{4}$	421.9	331.3	126.56	99.402	35.343
$\frac{5}{16}$	426.6	335.0	127.97	100.51	35.539
$\frac{3}{8}$	431.3	338.7	129.39	101.62	35.736
$\frac{7}{16}$	436.1	342.5	130.82	102.74	35.932
$\frac{1}{2}$	440.8	346.2	132.25	103.87	36.128
$\frac{9}{16}$	445.6	350.0	133.69	105.00	36.325
$\frac{5}{8}$	450.5	353.8	135.14	106.14	36.521
$\frac{11}{16}$	455.3	357.6	136.60	107.28	36.717
$\frac{3}{4}$	460.2	361.4	138.06	108.43	36.914
$\frac{13}{16}$	465.1	365.3	139.54	109.59	37.110
$\frac{7}{8}$	470.1	369.2	141.02	110.75	37.306
$\frac{15}{16}$	475.0	373.1	142.50	111.92	37.503

**WEIGHT OF SHEETS OF WROUGHT IRON,
STEEL, COPPER AND BRASS. (From Haswell.)**

Weights per Square Foot. Thickness by Birmingham Gauge.

No. of Gauge.	Thickness in inches.	Iron.	Steel.	Copper.	Brass.
0000	.454	18.22	18.46	20.57	19.43
000	.425	17.05	17.28	19.25	18.19
00	.38	15.25	15.45	17.21	16.26
0	.34	13.64	13.82	15.40	14.55
1	.3	12.04	12.20	13.59	12.84
2	.284	11.40	11.55	12.87	12.16
3	.259	10.39	10.53	11.73	11.09
4	.238	9.55	9.68	10.78	10.19
5	.22	8.83	8.95	9.97	9.42
6	.203	8.15	8.25	9.20	8.69
7	.18	7.22	7.32	8.15	7.70
8	.165	6.62	6.71	7.47	7.06
9	.148	5.94	6.02	6.70	6.33
10	.134	5.38	5.45	6.07	5.74
11	.12	4.82	4.88	5.44	5.14
12	.109	4.37	4.43	4.94	4.67
13	.095	3.81	3.86	4.30	4.07
14	.083	3.33	3.37	3.76	3.55
15	.072	2.89	2.93	3.26	3.08
16	.065	2.61	2.64	2.94	2.78
17	.058	2.33	2.36	2.63	2.48
18	.049	1.97	1.99	2.22	2.10
19	.042	1.69	1.71	1.90	1.80
20	.035	1.40	1.42	1.59	1.50
21	.032	1.28	1.30	1.45	1.37
22	.028	1.12	1.14	1.27	1.20
23	.025	1.00	1.02	1.13	1.07
24	.022	.883	.895	1.00	.942
25	.02	.803	.813	.906	.856
26	.018	.722	.732	.815	.770
27	.016	.642	.651	.725	.685
28	.014	.562	.569	.634	.599
29	.013	.522	.529	.589	.556
30	.012	.482	.488	.544	.514
31	.01	.401	.407	.453	.428
32	.009	.361	.366	.408	.385
33	.008	.321	.325	.362	.342
34	.007	.281	.285	.317	.300
35	.005	.201	.203	.227	.214
Specific Gravity,		7.704	7.806	8.698	8.218
Weight Cubic Foot,		481.25	487.75	543.6	513.6
" " Inch,		.2787	.2823	.3146	.2972

**WEIGHT OF SHEETS OF WROUGHT IRON,
STEEL, COPPER AND BRASS. (From Haswell.)**
Weights per Sq. Foot. Thickness by American (Browne & Sharpe's) Gauge.

No. of Gauge.	Thickness in inches.	Iron.	Steel.	Copper.	Brass.
0000	.46	18.46	18.70	20.84	19.69
000	.4096	16.44	16.66	18.56	17.53
00	.3648	14.64	14.83	16.53	15.61
0	.3249	13.04	13.21	14.72	13.90
1	.2893	11.61	11.76	13.11	12.38
2	.2576	10.34	10.48	11.67	11.03
3	.2294	9.21	9.33	10.39	9.82
4	.2043	8.20	8.31	9.26	8.74
5	.1819	7.30	7.40	8.24	7.79
6	.1620	6.50	6.59	7.34	6.93
7	.1443	5.79	5.87	6.54	6.18
8	.1285	5.16	5.22	5.82	5.50
9	.1144	4.59	4.65	5.18	4.90
10	.1019	4.09	4.14	4.62	4.36
11	.0907	3.64	3.69	4.11	3.88
12	.0808	3.24	3.29	3.66	3.46
13	.0720	2.89	2.93	3.26	3.08
14	.0641	2.57	2.61	2.90	2.74
15	.0571	2.29	2.32	2.59	2.44
16	.0508	2.04	2.07	2.30	2.18
17	.0453	1.82	1.84	2.05	1.94
18	.0403	1.62	1.64	1.83	1.73
19	.0359	1.44	1.46	1.63	1.54
20	.0320	1.28	1.30	1.45	1.37
21	.0285	1.14	1.16	1.29	1.22
22	.0253	1.02	1.03	1.15	1.08
23	.0226	.906	.918	1.02	.966
24	.0201	.807	.817	.911	.860
25	.0179	.718	.728	.811	.766
26	.0159	.640	.648	.722	.682
27	.0142	.570	.577	.643	.608
28	.0126	.507	.514	.573	.541
29	.0113	.452	.458	.510	.482
30	.0100	.402	.408	.454	.429
31	.0089	.358	.363	.404	.382
32	.0080	.319	.323	.360	.340
33	.0071	.284	.288	.321	.303
34	.0063	.253	.256	.286	.270
35	.0056	.225	.228	.254	.240

As there are many gauges in use differing from each other, and even the thicknesses of a certain specified gauge, as the Birmingham, are not assumed the same by all manufacturers, orders for sheets and wire should always state the weight per square foot, or the thickness in thousandths of an inch.

DEARBORN FOUNDRY COMPANY.

STANDARD CAST SEPARATORS FOR BEAMS.

DESIGNATION OF BEAM.	DISTANCE.		TWO BOLTS.			WEIGHT.	
	Out to Out of Flanges. In.	Between Flanges. In.	Size, In.	Cen. to Cen. In.	Length. In	Bolts and Nuts. Lbs.	Separator. Lbs.
				In.	In	Lbs.	Lbs.
15" No. 1, 50 lbs.	10½	½	¾	7	7	3	17
15" " 2, 67 "	11½	½	¾	7	7½	3½	17
12" " 3, 42 "	9¾	½	¾	6½	6½	2¾	14
10½" " 4, 31½ "	9½	½	¾	6	6½	2¾	11
10" " 5, 30 "	9½	½	¾	5	6½	2¾	10
9" " 6, 23½ "	8½	½	¾	4½	5¾	2½	9
9" " 7, 45 "	10¾	½	¾	4½	7½	3	10
8" " 8, 22 "	8½	½	½	4	5½	1½	8
7" " 9, 18 "	7¾	½	½	3½	5½	1½	7
6" " 10, 13½ "	7	½	½	3	4½	1½	6
5" " 11, 10 "	6	½	½	2½	4¾	1½	5

The length of bolt is given from inside of head to end. The weight of one $\frac{3}{4}$ inch square nut included in the above is 0.27 lb., and of one $\frac{5}{8}$ inch square nut 0.15 lb.

DEARBORN FOUNDRY COMPANY.

WEIGHT OF ONE HUNDRED BOLTS WITH SQUARE HEADS AND NUTS.

HOOPES & TOWNSEND'S LIST.

Length under head to point.	DIAMETER OF BOLTS.								
	$\frac{1}{4}$ in.	$\frac{5}{16}$ in.	$\frac{3}{8}$ in.	$\frac{7}{16}$ in.	$\frac{1}{2}$ in.	$\frac{9}{16}$ in.	$\frac{5}{8}$ in.	$\frac{11}{16}$ in.	1 in.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1 $\frac{1}{2}$	4.00	7.00	10.50	15.20	22.50	39.50	63.00	.....	.....
1 $\frac{3}{4}$	4.35	7.50	11.25	16.30	23.82	41.62	66.00	.....	.....
2	4.75	8.00	12.00	17.40	25.15	43.75	69.00	109.00	163
2 $\frac{1}{4}$	5.15	8.50	12.75	18.50	26.47	45.88	72.00	113.25	169
2 $\frac{1}{2}$	5.50	9.00	13.50	19.60	27.80	48.00	75.00	117.50	174
2 $\frac{3}{4}$	5.75	9.50	14.25	20.70	29.12	50.12	78.00	121.75	180
3	6.25	10.00	15.00	21.80	30.45	52.25	81.00	126.00	185
3 $\frac{1}{2}$	7.00	11.00	16.50	24.00	33.10	56.50	87.00	134.25	196
4	7.75	12.00	18.00	26.20	35.75	60.75	93.10	142.50	207
4 $\frac{1}{2}$	8.50	13.00	19.50	28.40	38.40	65.00	99.05	151.00	218
5	9.25	14.00	21.00	30.60	41.05	69.25	105.20	159.55	229
5 $\frac{1}{2}$	10.00	15.00	22.50	32.80	43.70	73.50	111.25	168.00	240
6	10.75	16.00	24.00	35.00	46.35	77.75	117.30	176.60	251
6 $\frac{1}{2}$	.....	25.50	37.20	49.00	82.00	123.35	185.00	262	.....
7	.....	27.00	39.40	51.65	86.25	129.40	193.65	273	.....
7 $\frac{1}{2}$	.....	28.50	41.60	54.30	90.50	135.00	202.00	284	.....
8	.....	30.00	43.80	59.60	94.75	141.50	210.70	295	.....
9	.....	46.00	64.90	103.25	153.60	227.75	317	.....	.....
10	.....	48.20	70.20	111.75	165.70	244.80	339	.....	.....
11	.....	50.40	75.50	120.25	177.80	261.85	360	.....	.....
12	.....	52.60	80.80	128.75	189.90	278.90	382	.....	.....
13	.....	.....	86.10	137.25	202.00	295.95	404	.....	.....
14	.....	.....	91.40	145.75	214.10	313.00	426	.....	.....
15	.....	.....	96.70	154.25	226.20	330.05	448	.....	.....
16	.....	.....	102.00	162.75	238.30	347.10	470	.....	.....
17	.....	.....	107.30	171.00	250.40	364.15	492	.....	.....
18	.....	.....	112.60	179.50	262.60	381.20	514	.....	.....
19	.....	.....	117.90	188.00	274.70	398.25	536	.....	.....
20	.....	.....	123.20	206.50	286.80	415.30	558	.....	.....
Per inch additional	1.37	2.13	3.07	4.18	5.45	8.52	12.27	16.70	21.82

WEIGHTS OF NUTS AND BOLT-HEADS, IN POUNDS.

For calculating the weight of longer bolts.

Diameter of bolt, in inches.....		$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
Weight of hexagon nut and head.....	0.017	0.057	0.128	0.267	0.43	0.73	
Weight of square nut and head.....	0.021	0.069	0.164	0.320	0.55	0.88	
Diameter of bolt, in inches.....	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{2}$	3
Weight of hexagon nut and head	1.10	2.14	3.78	5.6	8.75	17	28.8
Weight of square nut and head	1.31	2.56	4.42	7.0	10.50	21	36.4

WROUGHT IRON WELDED TUBES, FOR GAS, STEAM, OR WATER.

$\frac{1}{4}$ inch and below, Butt Welded; $1\frac{1}{2}$ inch and above, Lap Welded; Proved to 300 lbs. per square inch by Hydraulic pressure.

TABLE OF STANDARD DIMENSIONS, AS MANUFACTURED BY MORRIS, TASKER & CO., LIMITED.

Inside Diameter. Inch.	Actual Outside Diameter. Inches.	Thick- ness. Inches.	Actual Inside Diameter. Inches.	External Circum- ference. Inches.	Internal Circum- ference. Inches.	Length of Pipe per sq. foot of Inside Surface. Feet.	Length of Pipe per sq. foot of Outside Surface. Feet.	Internal Area. Inches.	External Area. Inches.	Length of Pipe contain- ing One cubic foot. Feet.	Weight per foot of Length. Lbs.	No. of Threads per inch of Screw. Inch.	Taper of Threads per inch of Screw. Inch.
$\frac{1}{8}$	0.405	0.068	0.270	0.848	1.272	14.15	9.44	0.0572	0.129	250.0	0.243	27	$\frac{1}{2}$
$\frac{1}{4}$	0.54	0.088	0.364	1.144	1.696	10.50	7.075	0.1041	0.229	1385.	0.422	18	$\frac{1}{2}$
$\frac{3}{8}$	0.675	0.091	0.494	1.552	2.121	7.67	5.657	0.1916	0.358	751.5	0.561	18	$\frac{1}{2}$
$\frac{1}{2}$	0.84	0.109	0.623	1.957	2.652	6.13	4.502	0.3048	0.554	472.4	0.845	14	$\frac{1}{2}$
$\frac{3}{4}$	1.05	0.113	0.824	2.589	3.299	4.635	3.637	0.5333	0.866	270.	1.126	14	$\frac{1}{2}$
1	1.315	0.134	1.048	3.292	4.134	5.679	2.903	0.8627	1.357	166.9	1.670	$11\frac{1}{2}$	$\frac{1}{2}$
$1\frac{1}{4}$	1.66	0.140	1.380	4.335	5.215	2.768	2.301	1.496	2.164	96.25	2.258	$11\frac{1}{2}$	$\frac{1}{2}$
$1\frac{1}{2}$	1.9	0.145	1.611	5.061	5.969	2.371	2.01	2.038	2.835	70.65	2.694	$11\frac{1}{2}$	$\frac{1}{2}$
2	2.375	0.154	2.067	6.494	7.461	1.848	1.611	3.355	4.430	42.36	3.667	$11\frac{1}{2}$	$\frac{1}{2}$
$2\frac{1}{2}$	2.875	0.204	2.468	7.754	9.032	1.547	1.328	4.783	6.491	30.11	5.773	8	$\frac{1}{2}$
3	3.5	0.217	3.067	9.636	10.996	1.245	1.091	7.388	9.621	19.49	7.547	8	$\frac{1}{2}$
$3\frac{1}{2}$	4.0	0.226	3.548	11.146	12.566	1.077	0.955	9.887	12.566	14.56	9.055	8	$\frac{1}{2}$
4	4.5	0.237	4.026	12.648	14.137	0.949	0.849	12.730	15.904	11.81	10.728	8	$\frac{1}{2}$
5	5.563	0.259	5.045	15.849	17.475	0.757	0.629	19.990	24.299	7.20	14.564	8	$\frac{1}{2}$
6	6.625	0.280	6.065	19.054	20.813	0.63	0.577	28.889	34.471	4.98	18.767	8	$\frac{1}{2}$
7	7.625	0.301	7.023	22.063	23.954	0.544	0.505	38.737	45.663	3.72	23.410	8	$\frac{1}{2}$
8	8.625	0.322	7.982	25.076	27.096	0.478	0.444	50.039	58.426	2.88	28.348	8	$\frac{1}{2}$
9	9.688	0.344	9.001	28.277	30.433	0.425	0.394	63.633	73.715	2.26	34.077	8	$\frac{1}{2}$
10	10.75	0.366	10.019	31.475	33.772	0.381	0.355	78.838	90.762	1.80	40.641	8	$\frac{1}{2}$

DEARBORN FOUNDRY COMPANY.

DECIMALS OF AN INCH FOR EACH $\frac{1}{64}$ th.

$\frac{1}{32}$ ds.	$\frac{1}{64}$ ths.	Decimal.	Fraction	$\frac{1}{32}$ ds.	$\frac{1}{64}$ ths.	Decimal.	Fraction
	1	.015625			33	.515625	
1	2	.03125		17	34	.53125	
	3	.046875			35	.546875	
2	4	.0625	1-16	18	36	.5625	9-16
	5	.078125			37	.578125	
3	6	.09375		19	38	.59375	
	7	.109375			39	.609375	
4	8	.125	1-8	20	40	.625	5-8
	9	.140625			41	.640625	
5	10	.15625		21	42	.65625	
	11	.171875			43	.671875	
6	12	.1875	3-16	22	44	.6875	11-16
	13	.203125			45	.703125	
7	14	.21875		23	46	.71875	
	15	.234375			47	.734375	
8	16	.25	1-4	24	48	.75	3-4
	17	.265625			49	.765625	
9	18	.28125		25	50	.78125	
	19	.296875			51	.796875	
10	20	.3125	5-16	26	52	.8125	13-16
	21	.328125			53	.828125	
11	22	.34375		27	54	.84375	
	23	.359375			55	.859375	
12	24	.375	3-8	28	56	.875	7-8
	25	.390625			57	.890625	
13	26	.40625		29	58	.90625	
	27	.421875			59	.921875	
14	28	.4375	7-16	30	60	.9375	15-16
	29	.453125			61	.953125	
15	30	.46875		31	62	.96875	
	31	.484375			63	.984375	
16	32	.5	1-2	32	64	1.	1

DECIMAL PARTS OF A FOOT FOR EACH $\frac{1}{64}$ th OF AN INCH.

Inch.	0"	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"
0	0	.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167
$\frac{1}{64}$	.0013	.0846	.1680	.2513	.3346	.4180	.5013	.5846	.6680	.7513	.8346	.9180
$\frac{2}{64}$	.0026	.0859	.1693	.2526	.3359	.4193	.5026	.5859	.6693	.7526	.8359	.9193
$\frac{3}{64}$	.0039	.0872	.1706	.2539	.3372	.4206	.5039	.5872	.6706	.7539	.8372	.9206
$\frac{4}{64}$	.0052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	.6719	.7552	.8385	.9219
$\frac{5}{64}$	.0065	.0898	.1732	.2565	.3398	.4232	.5065	.5898	.6732	.7565	.8398	.9232
$\frac{6}{64}$	.0078	.0911	.1745	.2578	.3411	.4245	.5078	.5911	.6745	.7578	.8411	.9245
$\frac{7}{64}$	.0091	.0924	.1758	.2591	.3424	.4258	.5091	.5924	.6758	.7591	.8424	.9258
$\frac{8}{64}$	.0104	.0937	.1771	.2604	.3437	.4271	.5104	.5937	.6771	.7604	.8437	.9271
$\frac{9}{64}$	.0117	.0951	.1784	.2617	.3451	.4284	.5117	.5951	.6784	.7617	.8451	.9284
$\frac{10}{64}$	.0130	.0964	.1797	.2630	.3464	.4297	.5130	.5964	.6797	.7630	.8464	.9297
$\frac{11}{64}$	.0143	.0977	.1810	.2643	.3477	.4310	.5143	.5977	.6810	.7643	.8477	.9310
$\frac{12}{64}$	.0156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9323
$\frac{13}{64}$	.0169	.1003	.1836	.2669	.3503	.4336	.5169	.6003	.6836	.7669	.8503	.9336
$\frac{14}{64}$	.0182	.1016	.1849	.2682	.3516	.4349	.5182	.6016	.6849	.7682	.8516	.9349
$\frac{15}{64}$	.0195	.1029	.1862	.2695	.3529	.4362	.5195	.6029	.6862	.7695	.8529	.9362
$\frac{16}{64}$	.0208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375

DECIMAL PARTS OF A FOOT FOR EACH $\frac{1}{16}$ th OF AN INCH—Continued.

Inch.	0"	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"
$\frac{1}{16}$	.0221	.1055	.1888	.2721	.3555	.4388	.5221	.6055	.6888	.7721	.8555	.9388
$\frac{2}{16}$	.0234	.1068	.1901	.2734	.3568	.4401	.5234	.6068	.6901	.7734	.8568	.9401
$\frac{3}{16}$	.0247	.1081	.1914	.2747	.3581	.4414	.5247	.6081	.6914	.7747	.8581	.9414
$\frac{4}{16}$	.0260	.1094	.1927	.2760	.3594	.4427	.5260	.6094	.6927	.7760	.8594	.9427
$\frac{5}{16}$	.0273	.1107	.1940	.2773	.3607	.4440	.5273	.6107	.6940	.7773	.8607	.9440
$\frac{6}{16}$	.0286	.1120	.1953	.2786	.3620	.4453	.5286	.6120	.6953	.7786	.8620	.9453
$\frac{7}{16}$	.0299	.1133	.1966	.2799	.3633	.4466	.5299	.6133	.6966	.7799	.8633	.9466
$\frac{8}{16}$	.0312	.1146	.1979	.2812	.3646	.4479	.5312	.6146	.6979	.7812	.8646	.9479
$\frac{9}{16}$	.0326	.1159	.1992	.2826	.3659	.4492	.5326	.6159	.6992	.7826	.8659	.9492
$\frac{10}{16}$	.0339	.1172	.2005	.2839	.3672	.4505	.5339	.6172	.7005	.7839	.8672	.9505
$\frac{11}{16}$	.0352	.1185	.2018	.2852	.3685	.4518	.5352	.6185	.7018	.7852	.8685	.9518
$\frac{12}{16}$	.0365	.1198	.2031	.2865	.3698	.4531	.5365	.6198	.7031	.7865	.8698	.9531
$\frac{13}{16}$	.0378	.1211	.2044	.2878	.3711	.4544	.5378	.6211	.7044	.7878	.8711	.9544
$\frac{14}{16}$	.0391	.1224	.2057	.2891	.3724	.4557	.5391	.6224	.7057	.7891	.8724	.9557
$\frac{15}{16}$	.0404	.1237	.2070	.2904	.3737	.4570	.5404	.6237	.7070	.7904	.8737	.9570
$\frac{16}{16}$	.0417	.1250	.2083	.2917	.3750	.4583	.5417	.6250	.7083	.7917	.8750	.9583

DECIMAL PARTS OF A FOOT FOR EACH $\frac{1}{16}$ th OF AN INCH—Continued.

Inch.	0"	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"
.0430	.1263	.2096	.2930	.3763	.4596	.5430	.6263	.7096	.7930	.8763	.9596	
.0443	.1276	.2109	.2943	.3776	.4609	.5443	.6276	.7109	.7943	.8776	.9609	
.0456	.1289	.2122	.2956	.3789	.4622	.5456	.6289	.7122	.7956	.8789	.9622	
.0469	.1302	.2135	.2969	.3802	.4635	.5469	.6302	.7135	.7969	.8802	.9635	
.0482	.1315	.2148	.2982	.3815	.4648	.5482	.6315	.7148	.7982	.8815	.9648	
.0495	.1328	.2161	.2995	.3828	.4661	.5495	.6328	.7161	.7995	.8828	.9661	
.0508	.1341	.2174	.3008	.3841	.4674	.5508	.6341	.7174	.8008	.8841	.9674	
.0521	.1354	.2188	.3021	.3854	.4688	.5521	.6354	.7188	.8021	.8854	.9688	
.0534	.1367	.2201	.3034	.3867	.4701	.5534	.6367	.7201	.8034	.8867	.9701	
.0547	.1380	.2214	.3047	.3880	.4714	.5547	.6380	.7214	.8047	.8880	.9714	
.0560	.1393	.2227	.3060	.3893	.4727	.5560	.6393	.7227	.8060	.8893	.9727	
.0573	.1406	.2240	.3073	.3906	.4740	.5573	.6406	.7240	.8073	.8906	.9740	
.0586	.1419	.2253	.3086	.3919	.4753	.5586	.6419	.7253	.8086	.8919	.9753	
.0599	.1432	.2266	.3098	.3932	.4766	.5599	.6432	.7266	.8099	.8932	.9766	
.0612	.1445	.2279	.3112	.3945	.4779	.5612	.6445	.7279	.8112	.8945	.9779	
.0625	.1458	.2292	.3125	.3958	.4792	.5625	.6458	.7292	.8125	.8958	.9792	

DECIMAL PARTS OF A FOOT FOR EACH $\frac{1}{16}$ th OF AN INCH—Continued.

Inch.	0"	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"
.0638	.1471	.2305	.3138	.3971	.4805	.5638	.6471	.7305	.8138	.8971	.9805	
.0651	.1484	.2318	.3151	.3984	.4818	.5651	.6484	.7318	.8151	.8984	.9818	
.0664	.1497	.2331	.3164	.3997	.4831	.5664	.6497	.7331	.8164	.8997	.9831	
.0677	.1510	.2344	.3177	.4010	.4844	.5677	.6510	.7344	.8177	.9010	.9844	
.0690	.1523	.2357	.3190	.4023	.4857	.5690	.6523	.7357	.8190	.9023	.9857	
.0703	.1536	.2370	.3203	.4036	.4870	.5703	.6536	.7370	.8203	.9036	.9870	
.0716	.1549	.2383	.3216	.4049	.4883	.5716	.6549	.7383	.8216	.9049	.9883	
.0729	.1562	.2396	.3229	.4062	.4896	.5729	.6562	.7396	.8229	.9062	.9896	
.0742	.1576	.2409	.3242	.4076	.4909	.5742	.6576	.7409	.8242	.9076	.9909	
.0755	.1589	.2422	.3255	.4089	.4922	.5755	.6589	.7422	.8255	.9089	.9922	
.0768	.1602	.2435	.3268	.4102	.4935	.5768	.6602	.7435	.8268	.9102	.9935	
.0781	.1615	.2448	.3281	.4115	.4948	.5781	.6615	.7448	.8281	.9115	.9948	
.0794	.1628	.2461	.3294	.4128	.4961	.5794	.6628	.7461	.8294	.9128	.9961	
.0807	.1641	.2474	.3307	.4141	.4974	.5807	.6641	.7474	.8307	.9141	.9974	
.0820	.1654	.2487	.3320	.4154	.4987	.5820	.6654	.7487	.8320	.9154	.9987	
												1.0000

DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

**TABLE SHOWING SAFE UNIFORMLY DISTRIBUTED LOAD IN POUNDS
OF WROUGHT ANGLE IRON WITH EQUAL LEGS. (See Sections.)**

Size.	6 x 6	4 x 4	3½ x 3½	3¼ x 3¾	3 x 3	2¾ x 2¾	2½ x 2½	2 x 2	1¾ x 1¾	1½ x 1½	1 x 1
Weight per ft.	19.2 lbs.	9.5 lbs.	8.8 lbs.	7.7 lbs.	6.9 lbs.	5.4 lbs.	4.9 lbs.	3.5 lbs.	3.1 lbs.	2.1 lbs.	1.8 lbs.
Length in feet.	1	36800	12000	9600	7900	5700	4700	3800	2600	2000	1120
2	18400	6000	4800	3950	2850	2350	1900	1300	1000	560	400
3	12266	4000	3200	2633	1900	1566	1266	866	666	373	266
4	9200	3000	2400	1975	1425	1175	950	650	500	280	200
5	7260	2400	1920	1580	1140	940	760	520	400	224	160
6	6133	2000	1600	1316	950	783	633	433	333	186	133
7	5257	1712	1371	1128	813	672	542	371	285	...	...
8	4600	1500	1200	987	712	587	475	325	250	...	...
9	4088	1333	1066	877	633	522	422	...	...	...	...
10	3680	1200	960	790	570	470	380	...	...	...	...
11	3345	1090	872	717	517	...	...	...	...	...	...
12	3066	1000	800	658	475	...	...	...	...	...	...

Note.—Nearly all the above Angle Iron can be rolled with greater thickness if desired, and the strength would increase in proportion. The above values are for the lighter weights of the Angle Iron.

DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

**TABLE SHOWING SAFE UNIFORMLY DISTRIBUTED LOAD, IN POUNDS, OF
WROUGHT ANGLE IRON WITH UNEQUAL LEGS. (See Sections.)**

Size.	6 x 4	5 x 3½	4½ x 3	4 x 3	3½ x 3	3½ x 1½	3 x 2½	3 x 2	Greatest Depth of Angle.
	Weight per ft. Length in ft.	14.0 lbs.	10.2 lbs.	9.0 lbs.	7.0 lbs.	5.2 lbs.	4.0 lbs.	4.375 lbs.	
1	30680	18353	14580	9850	6180	5515	4490	4334	The section shows the way in which Angle Irons are used. Table giving strength of angle each way, viz:
	14750	9651	7020	5871	4710	1148	3233	2080	
2	15340	9176	7290	4925	3090	2757	2245	2167	Smallest " " "
	7375	4825	3510	2935	2355	574	1616	1040	
4	7670	4588	3645	2462	1545	1378	1122	1083	Greatest " " "
	3687	2412	1755	1467	1177	287	808	520	
6	5113	3058	2430	1642	1030	912	748	722	Smallest " " "
	2458	1608	1170	978	785	191	538	347	
8	3835	2294	1822	1231	772	689	561	541	Greatest " " "
	1843	1206	877	733	588	143	404	260	
10	3068	1835	1458	985	618	551	449	433	Smallest " " "
	1475	965	702	587	471	114	323	208	

NOTE.—Nearly all of the above Angle Iron can be rolled with greater thickness if desired, and the strength would increase in proportion. The above values are for the lighter weights of the Angle Iron.

DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

**TABLE SHOWING SAFE UNIFORMLY DISTRIBUTED LOAD IN
POUNDS OF WROUGHT TEE IRON. (See Sections.)**

Size.	4 x 4	3½ x 3½	3 x 3	2½ x 2½	2 x 2	5 x 2½	3 x 2	2 x 1½	2½ x 1½	2 x 1	1½ x 1
Length in feet.	12.5 lbs.	9.6 lbs.	7.0 lbs.	5.0 lbs.	3.13 lbs.	11.70 lbs.	4.8 lbs.	3.0 lbs.	2.4 lbs.	2.16 lbs.	1.86 lbs.
1	15800	10550	6680	3850	1970	6344	2540	1355	604	457	421
2	7900	5275	3340	1925	985	3172	1270	677	302	228	210
3	5266	3516	2226	1283	658	2114	846	451	201	152	140
4	3950	2637	1670	962	492	1586	635	338	151	114	105
5	3160	2110	1336	770	394	1268	508	271	120	91	84
6	2633	1758	1113	641	328	1057	423	225	100	76	70
7	2257	1507	954	550	281	906	363	193	86	65	60
8	1975	1318	835	481	246	793	318	169	75	57	52
9	1755	1172	742	427	219	705	282	150	67	...	...
10	1580	1055	668	385	197	634	254	135	60	...	...
11	1436	959	607	350	179	576	230	123	...	...	...
12	1316	879	556	320	164	528	211	112	...	...	...

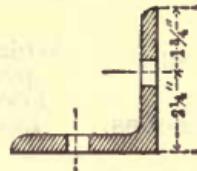
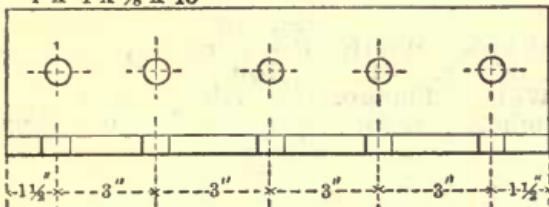
NOTE.—Nearly all the above Tee Iron can be rolled with greater thickness if desired, and the strength would increase in proportion. The above values are for the lighter weights of the Tee Iron.

DEARBORN FOUNDRY COMPANY.

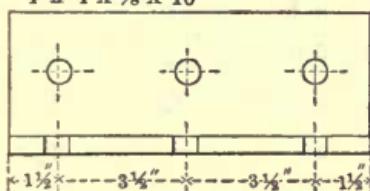
Standard Connection Angles
for Beams and Channels.

For 20" Beam

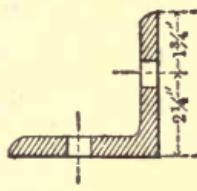
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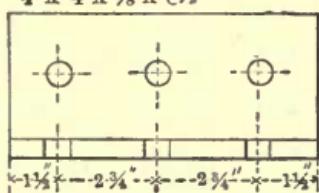
4" x 4" x $\frac{3}{8}$ " x 10"



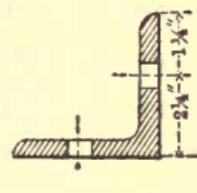
15" Beam



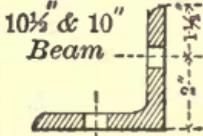
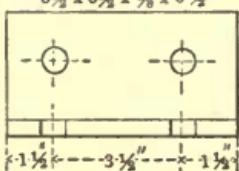
4" x 4" x $\frac{3}{8}$ " x 8 1/2"



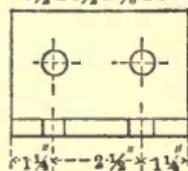
12" Beam



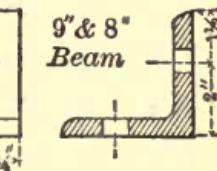
3 1/2" x 3 1/2" x $\frac{3}{8}$ " x 6 1/2"



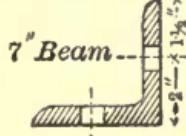
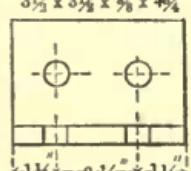
3 1/2" x 3 1/2" x $\frac{3}{8}$ " x 5"



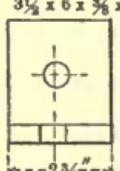
9" & 8" Beam



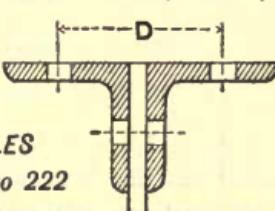
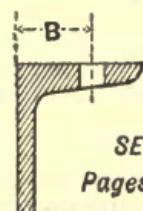
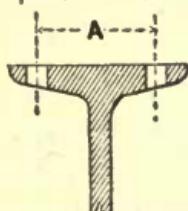
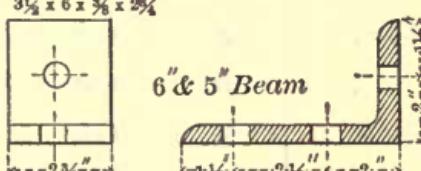
3 1/2" x 3 1/2" x $\frac{3}{8}$ " x 4 1/4"



3 1/2" x 6" x $\frac{3}{8}$ " x 2 3/4"



6" & 5" Beam



SEE TABLES
Pages 220 to 222

DEARBORN FOUNDRY COMPANY.

STANDARD RIVET OR BOLT HOLES THROUGH FLANGES.

Iron I Beams.

Size. Inches.	Weight per Foot. Lbs.	Thickness of Web. Inches.	Width of Flange. Inches.	Size of Rivet or Bolt through Flange. Inches.	A Inches.	D Inches.
15	80	0.76	6.08	¾	3 $\frac{7}{16}$	5 $\frac{1}{4}$
15	60	0.57	5.45	¾	3	5 $\frac{1}{16}$
15	50	0.49	5.05	¾	2 $\frac{3}{4}$	5
12	56 $\frac{1}{2}$	0.78	5.16	¾	3	5 $\frac{5}{16}$
12	42	0.51	4.63	¾	2 $\frac{9}{16}$	5
10 $\frac{1}{2}$	40	0.55	4.80	¾	2 $\frac{1}{16}$	4 $\frac{9}{16}$
10 $\frac{1}{2}$	31 $\frac{1}{2}$	0.41	4.53	¾	2 $\frac{1}{2}$	4 $\frac{7}{16}$
10	36	0.44	4.50	¾	2 $\frac{1}{2}$	4 $\frac{7}{16}$
10	30	0.37	4.31	¾	2 $\frac{5}{16}$	4 $\frac{3}{8}$
9	45	0.52	5.02	¾	2 $\frac{3}{4}$	4 $\frac{1}{2}$
9	38 $\frac{1}{2}$	0.46	4.71	¾	2 $\frac{5}{8}$	4 $\frac{7}{16}$
9	28 $\frac{1}{2}$	0.40	4.16	½	2 $\frac{1}{4}$	4 $\frac{3}{8}$
9	23 $\frac{1}{2}$	0.34	3.96	½	2 $\frac{1}{8}$	4 $\frac{3}{8}$
8	35	0.35	4.60	¾	2 $\frac{1}{2}$	4 $\frac{3}{8}$
8	27	0.41	4.09	½	2 $\frac{1}{4}$	4 $\frac{7}{16}$
8	21 $\frac{1}{2}$	0.33	3.71	½	2	4 $\frac{5}{16}$
7	22	0.38	3.82	½	2 $\frac{1}{8}$	4 $\frac{3}{8}$
7	18	0.26	3.52	½	1 $\frac{7}{8}$	4 $\frac{1}{4}$
6	16	0.25	3.44	½	1 $\frac{13}{16}$	4 $\frac{1}{4}$
6	13 $\frac{1}{2}$	0.24	3.24	½	1 $\frac{3}{4}$	4 $\frac{1}{4}$
5	12	0.28	2.96	½	1 $\frac{5}{8}$	4 $\frac{5}{16}$
5	10	0.23	2.85	½	1 $\frac{9}{16}$	4 $\frac{1}{4}$
4	7	0.18	2.50	½	1 $\frac{1}{16}$	4 $\frac{3}{16}$

NOTE.—See cuts at bottom of page 219 for letters A and D in tables.

DEARBORN FOUNDRY COMPANY.

STANDARD RIVET OR BOLT HOLES THROUGH FLANGES.

Steel I Beams.

Size. Inches.	Weight per Foot. Lbs.	Thickn's of Web. Inches.	Width of Flange. Inches.	Size of Rivet or Bolt through Flange. Inches.	A Inches.	D Inches.
20	80	0.60	7.00	¾	3 ¹ ₆	5 ¹ ₈
20	64	0.50	6.25	¾	3 ³ ₈	5
15	50	0.45	5.75	¾	3 ¹ ₈	4 ¹ ₆
15	41	0.40	5.50	¾	2 ¹ ₅ ₆	4 ⁷ ₈
12	40	0.39	5.50	¾	2 ¹ ₆	4 ⁷ ₈
12	32	0.35	5.25	¾	2 ¹ ₃ ₆	4 ⁷ ₈
10	33	0.37	5.00	¾	2 ¹ ₁ ₆	4 ⁷ ₈
10	25 ¹ ₂	0.32	4.75	¾	2 ⁹ ₁₆	4 ⁵ ₆
9	27	0.31	4.75	¾	2 ¹ ₆	4 ⁵ ₆
9	21	0.27	4.50	¾	2 ³ ₈	4 ¹ ₄
8	22	0.27	4.50	¾	2 ³ ₈	4 ¹ ₄
8	18	0.25	4.25	¾	2 ¹ ₄	4 ¹ ₄
7	20	0.27	4.25	¾	2 ¹ ₄	4 ¹ ₄
7	15 ¹ ₂	0.23	4.00	½	2 ¹ ₈	4 ¹ ₄
6	16	0.26	3.625	½	1 ¹ ₅ ₆	4 ¹ ₄
6	13	0.23	3.50	½	1 ¹ ₈	4 ¹ ₄
5	13	0.26	3.13	½	1 ¹ ₆	4 ¹ ₄
5	10	0.22	3.00	½	1 ⁵ ₈	4 ¹ ₄
4	10	0.24	2.75	½	1 ¹ ₂	4 ¹ ₄
4	7 ¹ ₂	0.20	2.625	½	1 ⁷ ₁₆	4 ³ ₈

NOTE.—See cuts at bottom of page 219 for letters A and D in table.

DEARBORN FOUNDRY COMPANY.

STANDARD RIVET OR BOLT HOLES THROUGH FLANGES.

Channels.

Size. Inches.	Weight per Foot. Lbs.	Thickn's of Web. Inches.	Width of Flange. Inches.	Size of Rivet or Bolt through Flange. Inches.	B Inches.	D Inches.
15	40	0.53	3.53	¾	2	5
12	30	0.47	2.73	¾	1 5/8	5
12	23	0.31	3.00	¾	1 1/8	4 1/8
12	20	0.32	3.01	¾	1 11/16	4 1/8
10	20	0.30	2.50	¾	1 7/16	4 5/16
10	17 1/2	0.29	2.48	¾	1 3/8	4 5/16
10	16	0.32	2.51	¾	1 7/16	4 5/16
9	18	0.31	2.45	¾	1 3/8	4 5/16
9	16	0.30	2.43	¾	1 3/8	4 5/16
9	14 1/2	0.32	2.52	¾	1 7/16	4 5/16
8	16	0.31	2.35	¾	1 5/16	4 5/16
8	14	0.31	2.25	¾	1 1/4	4 5/16
8	10	0.21	2.01	5/8	1 1/8	4 3/16
7	14	0.31	2.35	¾	1 5/16	4 5/16
7	10 ½	0.24	1.94	5/8	1 1/16	4 1/4
7	8 3/4	0.19	1.89	5/8	1 1/16	4 3/16
6	10	0.22	2.04	5/8	1 1/8	4 1/4
6	7 1/2	0.20	1.76	5/8	1	4 3/16
5	9	0.26	1.94	5/8	1 1/8	4 1/4
5	6 1/2	0.18	1.68	5/8	1 5/16	4 3/16
4	7	0.24	1.74	½	1	4 1/4
4	5	0.17	1.49	½	1 3/16	4 3/16

NOTE.—See cuts at bottom of page 219 for letters B and D in table.

DEARBORN FOUNDRY COMPANY.

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